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<p>13. ABSTRACT (Maximum 200 words)</p> <p>The study of <i>Health Status of Military Women and Men in the Total Force</i> obtains comprehensive probability-based epidemiological data for women and men across all pay grades for active-duty Army, Air Force, and Guard/Reserve components. These data have been combined with comparable data from a Naval Health Research Center survey of active-duty Navy and Marine Corps personnel to form a comprehensive dataset for the Total Force. Principal study objectives are to</p> <ul style="list-style-type: none"> <li>(a) examine the health status of military women and men in six general areas: reproductive health, medical history and nutritional status, mental health, lifestyle factors, occupational/environmental risks and stressors, and use of health services;</li> <li>(b) examine the effects of military women's and men's physical health conditions or emotional problems on military work;</li> <li>(c) examine the impact of military service on the health status of military women and men; and</li> <li>(d) examine factors associated with health care utilization, satisfaction, and access to health services.</li> </ul>			
<p>This Annual Report discusses major activities of Year 3, including completion of data collection, preparation of an analysis file, data analysis, and the writing of the main findings report. In addition, it notes research activities planned for Year 4.</p>			
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## **FOREWORD**

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# **HEALTH STATUS OF MILITARY WOMEN AND MEN IN THE TOTAL FORCE**

## **YEAR 3 ANNUAL REPORT**

### **1.0 Introduction**

Among the considerable changes that the military has undergone in the past two decades, one of the more notable is an increasing number of women. As the number of women in the armed forces increases so have their corresponding expanded roles. A recent major change has been the lifting of the combat exclusion rule beginning in 1993 and amplified in 1994 that has resulted in the opening of large numbers of military positions that were previously closed to women. Further, the Services are being held accountable to Congress on their progress in integrating women into newly opened positions. These actions have considerably increased the opportunities for women to serve in the military and to advance in their careers. Despite reductions in the size of the active duty force, the percentage of women serving on active duty is increasing, as is the age and ethnic diversity of this population.

Such changes require the development of baseline data to monitor changes in health status and health care delivery needs within the Department of Defense. Much prior research on health issues has focused generally on military men and on the active-duty Services of the military. Consequently, broad-based epidemiological data about military women are lacking, and no comprehensive health status data are available across all components of the Total Force. The present investigation provides, for the first time, probability-based epidemiological data on women's and men's health status for the Total Force, encompassing personnel serving in the Active Military and in the Reserve Components.

This project builds on a recent study (Perceptions of Wellness and Readiness [POWR]) conducted jointly by the Naval Health Research Center (NHRC) and Research Triangle Institute (RTI) of active-duty Navy and Marine Corps personnel. Specifically, it expands the target population of the POWR study to encompass the active-duty Army and Air Force and the full set of Reserve components (Army National Guard, Army Reserve, Naval Reserve, Marine Corps Reserve, Air National Guard, Air Force Reserve). Information from the two surveys has been combined (to the extent permitted by common questionnaire items for the respective studies) to yield broad-based epidemiological data on women's and men's health status for the Total Force.

This report describes progress on the Total Force Study during Year 3 and plans for the project during Year 4.

## **1.1 Objectives**

The overriding aim of the Total Force Study is to provide comprehensive broad-based epidemiological data on the health status of women and men in all components of the Total Force, both Active and Reserve Components. To achieve this aim, the design, analyses, and reporting of the research has been guided by four broad objectives:

- Examine the health status of military women and men in six general areas: reproductive health, medical history and nutritional status, mental health, lifestyle factors, occupational/environmental risks and stressors, and use of health services.
- Examine the effects of military women's and men's physical health conditions or emotional problems on military work.
- Examine the impact of military service on the health status of military women and men.
- Examine factors associated with health care utilization, satisfaction, and access to health services.

These findings will have high significance to the Military in general and military women in particular because they will for the first time provide broad-based data for the Total Force that have important implications for readiness. More specifically, they (a) provide baseline epidemiological data on a wide range of health problems, risk factors, and health care needs and practices; (b) classify subgroups of women and men within and across Active and Reserve components who are most at risk of experiencing health problems; (c) suggest areas where health promotion and other interventions can be targeted to improve military women's and men's health; (d) compare health data for military and civilian populations, and (e) specify gaps in understanding that are in need of further study.

## **1.2 Background**

The shift in the U.S. Military from a conscription-based to an all-volunteer force in 1973, along with increased social acceptance of women's involvement in traditionally male-dominated occupations, has created new opportunities for an increasing number of women in the Military. In the early 1980s, less than 10% of the Armed Forces were women,<sup>1,2</sup> but by 1995 that percentage was approximately 14% of the force for a total of nearly 200,000 women.<sup>3</sup>

Although women in the U.S. Military have traditionally tended to be in administrative support or health-related occupational specialties, such as nursing, all occupations in principle

are open to women except those related to direct offensive ground combat.<sup>4-6</sup> In the Persian Gulf War, however, approximately 33,000 women served in combat-support roles, including airplane and helicopter pilots, construction and repair, and artillery direction.<sup>7</sup>

In addition to safety concerns for women who might be near direct combat operations, the Persian Gulf War and other events have raised concerns about the potential impact of military service upon women's health. These include the risk of stress-related health problems associated with minority status in a predominantly male environment, the risk of reproductive hazards associated with exposure to hazardous materials, or the risk of injury if women are in more physically demanding occupational specialties as opposed to administrative or medical specialties. Similarly, concern has also been raised about the potential impact of women's health problems upon overall military readiness.<sup>4</sup>

Partly in reflection of the large proportion of males in the Military, however, much prior research on the health of military personnel has either involved all-male samples within individual Services,<sup>8-11</sup> or it has included both military women and men but has generally not provided gender-specific estimates.<sup>12,13</sup> Prior health-related studies that have been conducted among military women, such as the 1989 DoD Women's Health Survey,<sup>14</sup> the 1992 Navy Personnel Research and Development Center (NPRDC) survey of pregnancy among enlisted women, and Hoiberg and White's study of hospitalizations among Navy women,<sup>4</sup> have tended to focus on a narrow aspect of military women's health issues (e.g., pregnancy, hospitalizations) or have not allowed estimation of baseline disease prevalence rates.

In addition, military population surveys do not offer the same degree of detailed epidemiological data on health status and health behaviors as are available for the civilian population through such studies as the National Health and Nutrition Examination Survey (NHANES),<sup>15-17</sup> the National Health Interview Survey (NHIS),<sup>18</sup> the Behavioral Risk Factor Surveillance System (BRFSS),<sup>19</sup> and the Epidemiological Catchment Area (ECA) study.<sup>20</sup> Five recent DoD-wide surveys have provided some population-based health data on active-duty members: the 1992 Worldwide Survey of Substance Abuse and Health Behaviors Among Military Personnel,<sup>21</sup> the 1992 DoD Survey of Military Medical Care Beneficiaries,<sup>22</sup> the 1989 DoD Women's Health Survey,<sup>14</sup> the 1995 DoD Survey of Health Related Behaviors Among Military Personnel<sup>23</sup> and the 1994-95 health care survey of DoD beneficiaries.

Unfortunately, none of these studies allows extensive estimation of baseline disease prevalence rates or provides comprehensive data about nutritional status, mental status, exposure to trauma/environmental hazards, reproductive history, stressors, or lifestyle factors. Additional

research is needed to better assess these issues and their impact on the use of health services and on the readiness of military women.

Studies of health service utilization of military women have found that military women are more likely to use health services than military men, a finding consistent with research in the civilian population.<sup>24-26</sup> Nice and Hilton found that Navy shipboard women used health care resources at a significantly higher rate than did men, with a female-to-male visit ratio of 1.44 for all visits and 1.21 when all sex-specific diagnoses were excluded.<sup>27</sup> Similarly, a study of the health status of women in the Army demonstrated that Army women used health care resources more frequently than Army men did.<sup>28</sup> In addition, Navy enlisted women have considerably higher rates of hospitalization than do enlisted men, with pregnancy-related conditions accounting for nearly one-third of women's hospitalizations.<sup>29</sup>

In one study of enlisted Navy men and women, mental disorders were the second leading cause for hospitalization, after injuries for men, and after pregnancy-related conditions for women.<sup>29</sup> However, a study of sex differences in sick call diagnoses aboard U.S. Navy ships found significantly higher rates of personality disorder, stress, and adjustment reactions, and other symptoms and syndromes (e.g., eating and sleep disorders) among women.<sup>30</sup> Also, women soldiers deployed during the Persian Gulf War were almost twice as likely as men to be diagnosed with psychiatric disorders.<sup>31</sup> However, these higher rates may reflect women's greater propensity to use health services, as noted above. Further, most studies have not controlled for known demographic, psychosocial, or Service-related differences between the sexes in the assessment of their disorder rates. More definitive data are needed to understand the extent of mental disorders and the need for additional prevention and/or intervention services.

Reproductive issues are of major concern not only for policy purposes (e.g., manning ships and staffing combat positions), but also for specialized health care. An NHRC study found that age-specific birth rates for Navy enlisted women were 10% to 50% less than for civilians.<sup>32</sup> The same study also reported that active-duty enlisted Navy women had an ectopic pregnancy rate twice that of civilian women. However, baseline information on known risk factors (e.g., lifestyle, reproductive history, and history of sexually transmitted diseases [STDs]) for adverse reproductive outcomes was not available. Therefore, adequate inferences could not be made about the high rate of ectopic pregnancies in enlisted Navy women.

Findings from these studies might suggest that stressors associated with being a woman in the Military or exposure to hazardous materials could be adversely affecting the health of military women. However, many of these studies have focused on only one Service (e.g., the Navy), have not taken into account risk factors that could explain differences between military

women and men, or have not collected sufficient baseline information to examine relationships between a particular risk factor (e.g., exposure to hazardous chemicals) and health outcomes. To better understand and evaluate the effect of an expanded role for women, a clear understanding of health, lifestyle, and fitness variables must be ascertained to serve as a basis for subsequent comparisons.

This study attempts to address a number of these gaps in information by generating baseline information related to six general health issue areas: (a) reproductive health, (b) medical history and nutritional status, (c) mental health, (d) lifestyle factors, (e) occupational/environmental risks and stressors, and (f) use of health services. When combined with data from the POWR survey of active-duty Navy and Marine Corps personnel, this research will provide important baseline information on the health status of military women and men in the Total Force, including the Reserve components. Findings from this research can reaffirm or guide current policies on occupation and medical care in the Military, particularly with regard to issues reflecting the health of military women.

## **2.0 Year 3 Activities**

During Year 3, the following key activities were accomplished:

- Data collection was completed and questionnaires were optically scanned to produce a raw data file.
- Raw data were cleaned, edited, and weighted.
- Total Force and POWR questionnaires were reviewed for comparable items.
- Total Force and POWR data were combined into a common analytical file for items that were comparable.
- We constructed relevant measures and conducted analyses of the data.
- The Total Force Main Findings Report (attached) was completed.

The following sections provide additional details about these activities.

### **2.1 Data Collection and Survey Performance Rates**

The data collection methodology for the study was adapted from the Total Design Method recommended by Dillman.<sup>33,34</sup> Our data collection involved three questionnaire mailings with a “reminder/thank you” postcard sent between the first and second and between the second and third mailings. Reminder postcards listed a toll-free telephone number at RTI for

respondents to call if they had any questions about the survey. During Year 3 of the study, the second questionnaire mailing occurred in early December 1998, approximately 8 weeks after the initial questionnaire mailing. The second mailing was sent to nonrespondents only. Again, a reminder postcard was sent 2 weeks after the second questionnaire mailing. The third and final questionnaire was sent to nonrespondents in late January 1999, about 8 weeks after the second questionnaire mailing. It was decided to allow at least 8 weeks between questionnaire mailings so there would be ample time for mail delivery to and from military personnel serving overseas.

Completed questionnaires were optically scanned by National Computer Systems (NCS). Working with NCS, we developed a means of maintaining the respondent's anonymity but, at the same time, tracking who had returned a completed questionnaire. Tracking numbers were printed on outer envelopes and the envelopes were immediately separated from questionnaires upon receipt. NCS tracked the receipt of questionnaires so that we could increase the efficiency of the data collection and minimize costs associated with follow-up mailings by limiting them to nonrespondents only.

RTI's communications office drafted a press release to inform members of the Military about the survey and answer what we anticipated would be commonly asked questions about the study. Beginning in August 1998 and continuing through the fall, this information began appearing in publications produced for the Active-Duty, Reserve, and Guard populations, such as Army Times or the National Guard Magazine. The press coverage was meant to develop an awareness of the study and explain the importance of the data collection effort.

For Total Force, we computed three performance rates—an eligibility rate, a contact rate, and a response rate among contacted eligible sample members. The eligibility rate represents the percentage of persons selected in the sample who were available to take part in the study when data collection was conducted and was 99.9% for the study. Persons who were deceased or had left the military were considered ineligible. The contact rate refers to the extent to which we mailed questionnaires to selected military members and did not receive any information suggesting that they did not receive it. We excluded persons whose questionnaire packets were returned because of unknown or undeliverable addresses or whose family members called to inform us that the person was in a deployed status and unlikely to get the mail. The contact rate for the study was 82.4%. The response rate was defined as the rate at which contacted eligible persons returned a usable questionnaire. This rate was 38.0% and resulted in a sample size of 15,025 respondents.

Although the eligibility and contact rates were high, the response rate was rather low and raises questions about the potential for nonresponse bias in the survey estimates. The number of

nonrespondents among eligible persons was greater than the number of respondents who completed a usable interview. Because persons who did not respond to the survey may differ from those who did respond, estimates based on respondents alone have the potential to misrepresent the population of interest. To help compensate for this problem, a nonresponse adjustment was made to the data in which the weights were adjusted by poststratifying them to the DoD population totals within selected demographic and pay grade groupings. These adjustments partially compensate for the fact that some age and gender groups cooperated with the survey at lower rates than did others and tend to diminish differences attributable to varying cooperation rates among respondents in these groups. Nonetheless, they do not entirely rule out the potential for bias.

Despite the low response rate, the extent to which the survey estimates may be biased is unclear. Several factors may have worked in favor of reduced bias. First, bias between respondents and nonrespondents seems most likely if there was a systematic relationship between the survey questions and reasons for nonparticipation (e.g., if questions asked about sensitive behaviors such as drug use or illegal behavior that might implicate respondents). The fact that most of the items did not ask about sensitive behaviors may have resulted in less bias. Second, the large number of respondents may have worked in favor of less bias. Large numbers of respondents provide an opportunity for a wide range of attitudes and behaviors to be expressed and represented and may help mitigate against bias. The Total Force sample contains 15,025 respondents. Third, comparisons of these data with another recent survey that had a higher response rate showed comparable results. We compared Total Force smoking rates for the Army and Air Force with those of the same Services from the 1998 DoD Survey of Health Related Behaviors Among Military Personnel<sup>35</sup> and found highly similar results between the two studies (estimates were within approximately one percentage point of one another for the Active-Duty Services). To the extent that this pattern occurred for other data, the bias due to nonresponse may be minimal in the present study.

## **2.2 Preparation of Total Force Analysis File**

### *Combining Total Force and POWR Data*

After the Total Force data collection was completed, the Total Force data were examined to identify problems with the data, such as missing data and inconsistent responses. Editing was performed to correct problems where possible. The POWR dataset was edited previously, so it was not necessary to re-examine it. We then turned our attention to creating a comprehensive dataset of the entire Military by combining the Total Force data (n=15,025) with the POWR data (n=9,856). In this section, we describe the methods used to create the comprehensive dataset. Based on our questionnaire development efforts, we knew that only some of the variables from

the Total Force or the POWR datasets were similar enough to be included in the combined dataset. Thus, we began this process of creating a combined dataset by identifying the variables common to the Total Force and POWR datasets with the goal of retaining as much information as possible.

We approached the task of creating the comprehensive dataset cautiously to maintain the validity and integrity of the data, understanding that even minor changes in question wording, format, or context can alter the results.<sup>36</sup> With that in mind, we compared the Total Force questionnaire against the POWR questionnaire eliminating the obviously incompatible questions and noting those questions that were compatible. As part of this process, we documented the differences in question wording, question introduction, response options, and formatting. We decided to include a variable in the comprehensive dataset if the differences between questionnaires did not appear to dramatically change the meaning of the question or otherwise greatly alter the pattern of responses.

After all variables were identified for the comprehensive dataset, we examined the data files separately to identify potential issues that would affect the combination of the two datasets, such as response options that were coded differently. These issues were resolved by creating identical new variables in the Total Force and POWR datasets. These new variables formed the comprehensive dataset, which was thoroughly examined for errors. Frequencies and cross-tabulations of each new variable with its original variables were examined to verify that the procedure was performed correctly. The comprehensive dataset consisted of 24,881 records.

### ***Sample Weighting and Estimation Procedures***

In this section, we describe the procedures used to construct the study weights (both sampling weights and analysis weights) and the study estimates provided in the main findings report. We make a distinction between sampling weights and analysis weights. The former are derived from the probability structure used to select the sample. The latter are modifications made to the sampling weights to compensate for such factors as missing data (e.g., nonresponse).

We estimated the sampling weights by matching the completed records to the sampling frame using the questionnaire information. Because location data were not available, we had to collapse the original 162 sampling strata across the location values and create 96 new sampling strata. Using the four remaining stratification variables (sex, Service, pay grade group, and race/ethnicity), we matched the completed questionnaires to the sampling frame.

We used information from May 1999 DoD population counts to simultaneously adjust the sampling weights for the nonresponding sample members and the disproportionate allocation of

the sampling design. The analysis weights were created by multiplying the sampling weights by this adjustment factor. Weights were adjusted to the May 1999 counts for both the Total Force data and the POWR data.

### ***Characteristics of Study Respondents***

Tables 1A, 1B, and 1C display the number of usable questionnaires returned from Reserve, Guard, and Active-Duty personnel, respectively, and present the distribution of study respondents by selected sociodemographic characteristics. Tables 1A, 1B, and 1C reflect the combination of the Total Force survey data with the POWR survey data.

Table 1A displays the distribution of study respondents for each Reserve component, and Table 1B displays the Guard component, by sociodemographic characteristics. Overall, we obtained 5,709 usable questionnaires from the sampled Reserve personnel. Females account for 2,077 of this total, or about 36%. For the Guard component, we received 3,520 usable questionnaires, with about 26% of them from females (927). The total number of Reserve and Guard respondents together is 9,229, with 33% of these being female.

Among the Reserve components, the Naval Reserve had the most respondents (1,908), followed by the Army Reserve (1,858), and the Air Force Reserve (1,020). The fewest number of responses came from the Marine Corps Reserve (923). Most Reserve personnel reported their race/ethnicity as non-Hispanic white (2,721), followed by Hispanic (1,612), and Asian/Filipino/Pacific Islander (668). Most had some college education (2,246) or a college degree (2,766), were over the age of 25, were married (3,299), and were in an E4-E6 pay grade (2,509). However, many Reserve respondents were in an O4-O10 pay grade (1,324).

Table 1B shows that the Army National Guard had 2,003 respondents, while the Air National Guard had 1,517. Most guard personnel reported their race/ethnicity as Hispanic, followed by non-Hispanic white, and Asian/Filipino/Pacific Islander. Most had some college education or a college degree, were over the age of 25, were married, or were in an E4-E6 paygrade.

Table 1C shows the sociodemographic distribution of the 15,265 Active-Duty respondents who completed a usable questionnaire. Active-Duty females accounted for 6,897 of the total number, or about 45%. The Navy had the highest number of respondents (7,861). The Army had the next highest amount of respondents (3,361), followed by the Air Force (2,297), and the Marine Corps (1,746).

The largest number of Active-Duty respondents reported their race/ethnicity as non-Hispanic white (7,813), followed by Hispanic (3,059), and non-Hispanic black (2,063). Most respondents had some college education (6,613), were over 25 years old (10,912), and were married (9,481). Most respondents reported being in an E4-E6 pay grade (7,263) or E7-E9 pay grade (2,530).

## **2.3 Data Analyses and Preparation of Main Findings Report**

### ***Estimation Procedures and Analysis Software***

The majority of the estimates presented in the main findings report (attached to this annual report as an appendix) were calculated using the SURvey DAta ANalysis (SUDAAN) software with the fully adjusted analysis weights described above. SUDAAN is a proprietary software package developed at the Research Triangle Institute (RTI) for the specific purpose of analyzing data from complex surveys.<sup>37</sup> The primary types of estimates produced for the main findings report are percentages, such as the percent of the total Reserve/Guard personnel who currently smoke, and the corresponding standard errors. We also identified the percentages that differed statistically across sex. Standard errors were calculated using the first-order Taylor series approximation of the deviation of the estimates from their expected values.<sup>38</sup> The estimates in the report were produced using the SUDAAN procedures DESCRIPT and CROSSTAB.

Total Force and POWR data were collected under different sampling designs for different populations. Total Force data were collected using a single-stage stratified design from eight Service and reserve/Guard groups. However, POWR data (from two Active-Duty Services) were collected using a two-stage design where installations were selected within strata in the first stage and personnel were selected within the installations in the second stage. Only Active-Duty military personnel were selected from Navy and Marine Corps installations for the POWR study. Data from the two studies were combined to give estimates for the overall Military and are presented in the main findings report. For purposes of calculating the correct variance estimates for the total Military, Total Force respondents were treated as if they were installations selected in the first stage as in the POWR study. Therefore, the “pseudo second-stage” sampling rates would be equal to 1.0.

**Table 1A Number of Reserve Respondents, by Sociodemographic Characteristics**

Characteristic	Army Reserve			Naval Reserve			Marine Corps Reserve			Air Force Reserve			Total Reserve Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>															
White – not Hispanic	172	234	406	444	775	1,219	155	428	583	162	351	513	933	1,788	2,721
Black – not Hispanic	168	87	255	56	66	122	29	48	77	24	26	50	277	227	504
Hispanic	309	472	781	121	241	362	37	153	190	101	178	279	568	1,044	1,612
American Indian/Alaskan Native	28	30	58	13	14	27	0	2	2	7	16	23	48	62	110
Asian/Filipino/Pacific Islander	119	197	316	53	108	161	3	52	55	40	96	136	215	453	668
Other	14	28	42	9	8	17	3	13	16	10	9	19	36	58	94
<b>Education</b>															
High school or less	102	191	293	45	128	173	34	116	150	21	46	67	202	481	683
Some college	332	433	765	270	356	626	114	378	492	130	233	363	846	1,400	2,246
College degree or beyond	375	418	793	380	726	1,106	79	199	278	192	397	589	1,026	1,740	2,766
<b>Age</b>															
20 or younger	89	67	156	1	2	3	23	99	122	7	2	9	120	170	290
21 to 25 years old	138	104	242	22	43	65	57	241	298	20	19	39	237	407	644
26 to 34 years old	215	274	489	168	317	485	58	187	245	70	125	195	511	903	1,414
35 or older	366	597	963	505	846	1,351	88	167	255	243	529	772	1,202	2,139	3,341
<b>Marital Status</b>															
Not married	509	406	915	298	330	628	134	423	557	144	153	297	1,085	1,312	2,397
Married	300	638	938	397	880	1,277	93	273	366	198	520	718	988	2,311	3,299
<b>Pay Grade</b>															
E1-E3	100	89	189	29	38	67	64	204	268	8	8	16	201	339	540
E4-E6	367	489	856	347	514	861	74	312	386	147	259	406	935	1,574	2,509
E7-E9	59	170	229	64	90	154	45	63	108	44	95	139	212	418	630
W1-W5	10	24	34	1	12	13	12	17	29	NA	NA	NA	23	53	76
O1-O3	168	115	283	65	100	165	7	24	31	58	93	151	298	332	630
O4-O10	106	161	267	190	458	648	25	76	101	87	221	308	408	916	1,324
<b>Total Reserve</b>	810	1,048	1,858	696	1,212	1,908	227	696	923	344	676	1,020	2,077	3,632	5,709

Note: Table entries are numbers of respondents who completed a usable questionnaire.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 1B Number of Guard Respondents, by Sociodemographic Characteristics**

Characteristic	Army National Guard			Air National Guard			Total Guard Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>									
White – not Hispanic	91	332	423	170	476	646	261	808	1,069
Black – not Hispanic	46	65	111	29	34	63	75	99	174
Hispanic	227	773	1,000	145	302	447	372	1,075	1,447
American Indian/Alaskan Native	39	87	126	27	51	78	66	138	204
Asian/Filipino/Pacific Islander	52	250	302	62	167	229	114	417	531
Other	16	25	41	23	31	54	39	56	95
<b>Education</b>									
High school or less	75	506	581	39	115	154	114	621	735
Some college	270	711	981	227	522	749	497	1,233	1,730
College degree or beyond	124	311	435	190	423	613	314	734	1,048
<b>Age</b>									
20 or younger	61	100	161	13	15	28	74	115	189
21 to 25 years old	88	156	244	43	62	105	131	218	349
26 to 34 years old	133	457	590	153	241	394	286	698	984
35 or older	189	811	1,000	244	737	981	433	1,548	1,981
<b>Marital Status</b>									
Not married	295	583	878	230	284	514	525	867	1,392
Married	175	938	1,113	225	776	1,001	400	1,714	2,114
<b>Pay Grade</b>									
E1-E3	98	152	250	24	15	39	122	167	289
E4-E6	269	1,005	1,274	247	538	785	516	1,543	2,059
E7-E9	30	159	189	88	250	338	118	409	527
W1-W5	9	39	48	NA	NA	NA	9	39	48
O1-O3	50	96	146	45	74	119	95	170	265
O4-O10	15	81	96	52	184	236	67	265	332
<b>Total Guard</b>	471	1,532	2,003	456	1,061	1,517	927	2,593	3,520

Note: Table entries are numbers of respondents who completed a usable questionnaire.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 1C Number of Active-Duty Respondents, by Sociodemographic Characteristics**

Characteristic	Army			Navy			Marine Corps			Air Force			Total Active-Duty Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
Race/Ethnicity															
White—not Hispanic	211	459	670	2,732	2,676	5,408	557	535	1,092	183	460	643	3,683	4,130	7,813
Black—not Hispanic	155	168	323	781	455	1,236	163	187	350	82	72	154	1,181	882	2,063
Hispanic	495	1,050	1,545	236	235	471	99	83	182	314	547	861	1,144	1,915	3,059
American Indian/Alaskan Native	58	90	148	28	36	64	14	16	30	35	34	69	135	176	311
Asian/Filipino/Pacific Islander	206	362	568	166	370	536	24	28	52	178	317	495	574	1,077	1,651
Other	36	71	107	85	61	146	23	17	40	36	39	75	180	188	368
Education															
High school or less	206	449	655	1,028	1,251	2,279	271	263	534	130	168	298	1,635	2,131	3,766
Some college	585	1,082	1,667	1,776	1,416	3,192	374	235	609	437	708	1,145	3,172	3,441	6,613
College degree or beyond	365	668	1,033	1,096	1,015	2,111	195	333	528	257	586	843	1,913	2,602	4,515
Age															
20 or younger	121	155	276	278	75	353	89	41	130	89	65	154	577	336	913
21 to 25 years old	349	406	755	1,049	576	1,625	310	163	473	241	233	474	1,949	1,378	3,327
26 to 34 years old	394	801	1,195	1,513	1,544	3,057	267	262	529	242	479	721	2,416	3,086	5,502
35 or older	287	825	1,112	1,156	1,608	2,764	205	391	596	253	685	938	1,901	3,509	5,410
Marital Status															
Not married	600	657	1,257	1,930	1,047	2,977	434	252	686	393	395	788	3,357	2,351	5,708
Married	555	1,536	2,091	2,079	2,762	4,841	441	608	1,049	432	1,068	1,500	3,507	5,974	9,481
Pay Grade															
E1-E3	184	250	434	685	129	814	181	84	265	189	158	347	1,239	621	1,860
E4-E6	566	979	1,545	2,136	2,021	4,157	398	164	562	356	643	999	3,456	3,807	7,263
E7-E9	140	441	581	386	862	1,248	111	244	355	105	241	346	742	1,788	2,530
W1-W5	32	103	135	13	47	60	43	71	114	NA	NA	NA	88	221	309
O1-O3	159	235	394	464	353	817	101	190	291	114	220	334	838	998	1,836
O4-O10	80	192	272	344	421	765	46	113	159	64	207	271	534	933	1,467
<b>Total Active Duty</b>	<b>1,161</b>	<b>2,200</b>	<b>3,361</b>	<b>4,028</b>	<b>3,833</b>	<b>7,861</b>	<b>880</b>	<b>866</b>	<b>1,746</b>	<b>828</b>	<b>1,469</b>	<b>2,297</b>	<b>6,897</b>	<b>8,368</b>	<b>15,265</b>

Note: Table entries are numbers of respondents who completed a usable questionnaire.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

### *Analytical Approach*

The focus of our analyses was to provide baseline information for five general areas:

- health status,
- health care utilization,
- health behaviors,
- psychosocial functioning, and
- female health issues.

Further, the sample design and the resulting dataset allowed for statistical comparisons between males and females and across the Active-Duty Services and Reserve/Guard components. These analyses provide information that will help assess the health and readiness of Reserve/Guard personnel, as well as Active-Duty personnel, and thus will help the DoD in its efforts to create a “seamless” Military.

To accomplish these aims, we conducted a series of descriptive cross-tabulations for the variables and measures in the comprehensive dataset by sex and Active-Duty Services or Reserve/Guard components. We assessed significant differences for these data using  $z$  tests.

### **3.0 Overview of Findings**

The Total Force Health Assessment surveyed all segments of the Military (Active-Duty, Reserve, and Guard) except Active-Duty Navy and Marine Corps personnel, who were studied using the POWR Assessment. In combination, these two surveys provide one of the first sets of health status results for personnel from all segments of the Military. A report showing the main findings from our initial analyses appears in Appendix A.

The highlights of the main findings report, noted in the following paragraphs, are grouped in four sections: (1) health status and health care utilization; (2) health behaviors; (3) psychosocial functioning; and, (4) female health issues. Comparisons between Reserve/Guard and Active-Duty personnel are discussed, and significant sex differences are noted where applicable. Some of the findings noted below do not include accompanying percentages because of the large number of comparisons being described. All estimates can be found in the report’s tables.

## ***Health Status and Health Care Utilization***

Key findings about health status and health care utilization indicate that females in the Military differ from and may not be doing as well as their male counterparts. For instance, fewer females than males rated their health as “excellent” (22.8% vs. 26.6% for Reserve/Guard; 21.0% vs. 29.1% for Active-Duty), and more females than males described themselves as having low vitality (a measure of energy) (38.4% vs. 26.6% for Reserve/Guard; 46.1% vs. 35.5% for Active-Duty). Moreover, significantly more females than males reported having role limitations due to physical or emotional problems. Our investigation of medical conditions revealed that females were more likely than males to suffer from allergies, urinary tract infections, and sexually transmitted diseases. More females than males in the Reserve/Guard (80.0% vs. 65.4%) and the Active-Duty (81.9% vs. 60.0%) reported any (one or more) medical conditions. Significantly more females than males in the Reserve/Guard and Active-Duty reported any visits to both military and civilian health care providers.

Comparisons between Reserve/Guard and Active-Duty personnel yielded a number of notable differences. Although Active-Duty personnel were more likely to report problems with vitality or role limitations than Reserve/Guard personnel, they were less likely to report physical ailments. More Active-Duty than Reserve/Guard personnel scored “low” on vitality (37.0% vs. 28.4%). Role limitations due to physical problems were reported by more Active-Duty personnel than Reserve/Guard members (22.1% vs. 15.6%). Also, role limitations due to emotional problems were reported by more Active-Duty personnel than Reserve/Guard members (17.5% vs. 13.7%). In terms of medical conditions, Active-Duty personnel were less likely than Reserve/Guard personnel to report chronic rhinitis or hay fever, other allergies, or arthritis. Lifetime prevalence of high cholesterol and high blood pressure was slightly lower among Active-Duty than Reserve/Guard personnel (12.7% of Active Duty vs. 16.9% of Reserve/Guard personnel reported high cholesterol; 9.1% vs. 11.9%, respectively, reported high blood pressure). Not surprisingly, the large majority of Active-Duty personnel (94.6%) had visited a military health care provider one or more times in the past year, and the majority of Reserve/Guard personnel (91.6%) had visited a civilian health care provider one or more times in the past year.

## ***Health Behaviors***

A number of the health behaviors investigated in this study showed significant sex differences. In terms of perceived physical fitness, a significantly higher proportion of females than males considered themselves to be physically fit. For example, about 8% of Reserve/Guard females reported their physical fitness was “excellent” compared to only 3% of Reserve/Guard males. Sex differences for selected eating behaviors were present for Reserve/Guard components and Active-Duty Services. Specifically, we noted that significantly more females than males

indicated that they tried to lose weight, changed their diet due to a medical condition, or ate in secret, while significantly more males than females reported that they were satisfied with their eating patterns. Moreover, significantly more females than males indicated that the following were important factors in food purchasing: health benefits/nutritional value; taste/likes or dislikes, or eating enjoyment; convenience and ease of preparation; and calories.

In terms of sleep patterns, Active-Duty males were significantly more likely than Active-Duty females to report sleeping 5 to 6 hours (52.7% vs. 47.5%), and Active-Duty females were significantly more likely than Active-Duty males to report sleeping 9 or more hours (4.0% vs. 2.3%). Use of alcohol also showed differences; females generally reported drinking alcoholic drinks on fewer days in the past 30 days, and they reported drinking fewer drinks on a typical day in the past 30 days when compared to males. For example, significantly more Active-Duty females (36.1%) than males (23.7%) reported that they did not drink alcohol in the past 30 days. For number of drinks on a typical day, females in the Reserve/Guard were significantly less likely than their male counterparts to have had one or no drinks in the past 30 days (61.7% vs. 47.0%). In terms of cigarette smoking, we observed that Active-Duty females were significantly less likely than their male counterparts to be current smokers (24.7% vs. 29.6%) or heavy smokers (7.3% vs. 12.6%).

In their current military jobs, females were much more likely than males to report that they did not need to use protective gear. For those who needed to use protective gear, Reserve/Guard females were significantly more likely than Reserve/Guard males to report that gear was “always” available (68.5% vs. 63.0%) and less likely to report that it was “sometimes” available (27.1% vs. 33.7%). In addition, Active-Duty females who needed to use protective gear were significantly more likely than their male counterparts to report that gear was “never” available.

For health behavior differences between Reserve/Guard and Active-Duty personnel, we noted the following. More Active-Duty than Reserve/Guard personnel reported their fitness was “fair” (30.0% vs. 26.7%) or “poor” (11.9% vs. 7.6%), and fewer reported their fitness was “good” (39.9% vs. 44.1%), “very good” (15.4% vs. 18.0%), or “excellent” (2.8% vs. 3.6%). In terms of dietary behaviors, about one-third (32.8%) of Reserve/Guard personnel said that diet and food choices were important to one’s health, while more than one-half (56.1%) of Active-Duty personnel reported the same. Reports of hours slept on an average night differed among Reserve/Guard and Active-Duty personnel. In the Reserve/Guard, 5 to 6 hours (45.9%) or 7 to 8 hours (46.3%) of sleep were commonly reported, while more Active-Duty personnel indicated that they slept 5 to 6 hours (51.9%) than 7 to 8 hours (38.8%) per night.

Beyond sleep habits, we noted that Reserve/Guard personnel were significantly more likely than their Active-Duty counterparts not to drink alcoholic drinks in the past 30 days (29.2% vs. 25.5%) and significantly less likely to report drinking on 4 to 10 of the past 30 days (18.3% vs. 24.5%). Active-Duty personnel had similar rates of current cigarette smoking compared to Reserve/Guard personnel (28.9% vs. 26.6%) and similar rates of heavy smoking (11.9% vs. 11.2%). Significantly more Reserve/Guard personnel reported that they “always” used protective gear compared to Active-Duty personnel (57.3% vs. 52.2%).

### ***Psychosocial Functioning***

Females differed significantly from males in terms of their psychosocial functioning, which included (a) exposure to disaster, violence, or accidents; (b) negative and positive life events; (c) need for formal depression evaluation; and (d) suicidal ideation. For exposure to disaster and violence, females were significantly less likely than males to have suffered exposure to a natural disaster, combat or violence, or an accident. Moreover, females were significantly less likely than males to have been exposed to combat or violence whether as a witness, survivor/victim, someone involved in relief efforts, or someone who used deadly force. Aside from these exposure measures, females appeared to have more psychosocial issues with which to contend.

For the estimates of positive and negative life events, few significant sex differences were noted; the most notable difference was that Reserve/Guard females were more likely than their male counterparts to have experienced “many” negative life events (15.5% vs. 8.3%). The prevalence of emotional, sexual, and physical abuse was significantly greater for Reserve/Guard and Active-Duty females in almost every comparison with their male counterparts. For both Active-Duty and Reserve/Guard personnel, the prevalence of treatment or counseling for abuse among those who reported abuse was also significantly higher for females. In addition, females were more likely than males to need further depression evaluation, although this difference was not significant for every Active-Duty Service or Reserve/Guard component. Notably, Reserve/Guard females were more likely than Reserve/Guard males to have considered suicide within the past 2 months. Surprisingly, females were significantly less likely than males to report high levels of social support.

Differences in psychosocial functioning among Reserve/Guard and Active-Duty personnel were noted. For example, of the different aspects of job stress, stress from responsibilities had the highest prevalence among the Reserve/Guard (31.9%), while among Active-Duty personnel job versus nonjob conflict (43.5%) was greater than the other sources of job stress. Additionally, Active-Duty personnel were more likely than Reserve/Guard members to report a risk level of overall job stress (45.0% vs. 27.8%). Also, the overall prevalence of need

for formal depression evaluation was significantly higher among Active-Duty personnel (27.4%) than among Reserve/Guard members (22.9%). The Reserve/Guard reported more social support than did the Active-Duty (41.1% vs. 31.7%).

### ***Female Health Issues***

Military females were asked about pregnancy and childbirth, gynecological history, menstrual and gynecological conditions, and cervical and breast health. Age at first menstruation (menarche), as well as age at first live birth, were similar for Reserve/Guard and Active-Duty personnel. About 90% of females reached menarche between 10 and 15 years, and the majority (55.3% for Reserve/Guard and 59.5% for Active-Duty) experienced their first childbirth between ages 21 and 30. Active-Duty and Reserve/Guard females were similar in the duration that they used birth control pills, with over three-quarters of females having some history of taking oral contraceptives.

Females in the Reserve/Guard were significantly more likely than those on Active-Duty to have taken replacement estrogens in the past 30 days (7.5% vs. 3.7%). In addition, about 78% of Reserve/Guard females and 87% of Active-Duty females reported having been pregnant since joining the Military. Reserve/Guard females were significantly less likely to have been pregnant since joining the Military compared to those on Active-Duty. They also were significantly less likely to report being pregnant at the time of the survey (2.7% vs. 11.3%).

In terms of these female health issues, we noted additional differences for females in the Reserve/Guard in comparison to those on Active-Duty. For example, significantly more Reserve/Guard than Active-Duty females reported they had cramps or pain during menstruation that required time off work (30.1% vs. 24.5%). Significantly more Active-Duty females reported bleeding between periods (15.4% vs. 11.0%). In addition, yeast or vaginal infection in the past 3 months was reported at a significantly higher rate among Active-Duty compared to Reserve/Guard females (26.4% vs. 21.9%).

Moreover, Active-Duty females were significantly more likely than Reserve/Guard females to have had a Pap smear in the year preceding the survey (76.9% vs. 71.0%), but receipt of Pap smears was high among females in all segments of the Military. Although Active-Duty females were significantly more likely than Reserve/Guard females to have had a breast exam by a medical provider in the preceding year (75.1% vs. 70.6%), the prevalence was high among military females.

## **4.0 Summary and Conclusions**

The key findings of the main findings report noted above indicate that there are notable differences on (a) health status and health care utilization, (b) health behaviors, and (c) psychosocial functioning, between men and women and between the Active Force and the Guard/Reserve components. Further there were also a number of differences between Active-Duty women and Guard/Reserve women regarding women's health issues.

These findings suggest many avenues for intervention and education that the DoD might consider. Among them are the following:

- lowering further the prevalence of high cholesterol and high blood pressure;
- encouraging males to visit health care providers;
- providing nutrition education, particularly for females;
- reducing alcohol use, especially among males and Active-Duty personnel;
- emphasizing smoking cessation;
- enhancing the availability of protective gear and of occupational safety training;
- providing education abuse prevention, as well as encouraging victims to seek counseling;
- screening for depression among all personnel;
- advising women to seek prenatal care; and
- educating about the importance of routine breast self-examinations.

Maintaining the health of all Military personnel is important to mission readiness as the Military moves to the 21<sup>st</sup> century. The findings noted above and other related findings are discussed in greater detail in the main findings report.

## **5.0 Year 4 Plans**

Year 4 will be devoted to additional in-depth analyses of Total Force data and the preparation of article-length manuscripts based on the analyses of data from the Total Force survey. Possible topics include but are not limited to:

- The health status of women and men in the military;
- Occupational exposure and reproductive health among Active Duty and Reserve Component Women and Men;
- Demographic differences in utilization of health care services in the Armed Forces;
- The mental health status of women and men in Active Duty and Reserve Components; and
- Effects of physical health conditions and emotional problems on work performance in military women.

We also plan to present some Total Force findings at the annual American Psychological Association conference in the coming year.

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**APPENDIX A**  
**Total Force Main Findings Report**

# **Health Status of Military Females and Males in All Segments of the U.S. Military**

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## PREFACE AND ACKNOWLEDGMENTS

The 1998 Health Status of Military Women and Men in the Total Force, also known as the Total Force Health Assessment study, was conducted by staff at the Research Triangle Institute (RTI) under the sponsorship of the U.S. Army Medical Research and Materiel Command. The Total Force Health Assessment surveyed all segments of the Military (Active-Duty Services and Reserve/Guard components) except Active-Duty Navy and Marine Corps personnel. In addition to data collected for the Total Force Health Assessment, this study reports on data from the 1995 Perceptions of Wellness and Readiness study, also known as the POWR Assessment, conducted by the Naval Health Research Center. The POWR Assessment surveyed Active-Duty personnel in the Navy and Marine Corps. This study is the first of its kind in its efforts to investigate issues that affect the Reserve/Guard components as well as the Active-Duty Services. As such, it provides comprehensive and detailed estimates in a number of areas: (1) health status, (2) health care utilization, (3) health behaviors, (4) psychosocial functioning, and (5) military females' health.

questionnaire development and data collection. Finally, we extend our appreciation to the participating military personnel whose responses made this effort possible.

Under subcontract to RTI, National Computer Systems printed, shipped, and received the questionnaires. They also performed the optical scanning of the Total Force questionnaires and provided a resulting data file for the analysis.

Many RTI staff members contributed significantly to this project. In particular, Carolyn O'Brien designed the questionnaire layout; June Walker led the data collection task and responded to participant inquiries; and Robert Mason and Jill Kavee developed the sampling frames and selected the sample. Jill Kavee and Ruby Johnson performed data imputations, analysis variable construction, and tabulations. Rebecca Sanchez made valuable comments on the report. Finally, many thanks are due Richard S. Straw, who copyedited and proofread the report, and to Linda B. Fonville, who completed the enormous word-processing requirements.

Many individuals contributed to the 1998 Total Force Health Assessment and to the task of combining the Total Force and POWR datasets. Special appreciation is due Patricia Modrow, the Cooperative Agreement Officer's Representative, for her valuable guidance throughout the conduct of the study. Excellent support came from the Total Force advisory panel during

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## EXECUTIVE SUMMARY

Much prior research on military health and health-related issues has focused generally on males and on the Active-Duty Services. Consequently, broad-based epidemiological and health services data about military females are lacking, and no comprehensive data are available across all segments of the Military (i.e., Reserve/Guard components and Active-Duty Services). With the expanding role of females in the United States (U.S.) Military, the development of baseline data to monitor changes in health status within the Department of Defense (DoD) is of critical importance.

This report presents findings on selected aspects of the health of the U.S. Military drawing on a combined dataset from two large-scale studies: (a) the 1998 Health Status of Military Women and Men in the Total Force, also called Total Force Health Assessment, and (b) the 1995 POWR Assessment: Perceptions of Wellness and Readiness, also called the POWR Assessment. The Total Force Health Assessment surveyed all segments of the Military (Active-Duty, Reserve, and Guard) except Active-Duty Navy and Marine Corps personnel, who were studied using the POWR Assessment. In combination, these two surveys provide one of the first sets of health status results for personnel from all segments of the Military.

This report presents baseline data on a broad array of health topics, including health status, health care utilization, health

behaviors, psychosocial functioning, and female health issues. The specific objectives of this report are to

- provide baseline epidemiological data on health issues and a broad range of potential risk factors,
- compare females and males within Active-Duty Services and Guard/Reserve components to assess who are most at risk of experiencing health problems,
- suggest areas in which health promotion and other interventions can be targeted to improve the health of females and males in the Military, and
- specify gaps in understanding that are in need of further study.

These specific objectives highlight two major purposes. One purpose is to present data for females on a variety of health issues and compare females' health status to that of males. In addition, another purpose is to provide and compare estimates for both Reserve/Guard and Active-Duty personnel. In the following paragraphs, we summarize (a) differences between females and males and (b) differences between Reserve/Guard and Active-Duty personnel.

The eligible population for this combination of Total Force and POWR datasets consisted of all military personnel except recruits, Service academy students and persons absent without leave. The final sample consisted of 15,025 (for Total Force) and 9,856 (for POWR) military personnel who completed self-administered questionnaires for a total of 24,881 cases. Participants were selected to represent females and males in all pay grades of all segments of the U.S. Military throughout the world. Data were primarily collected from participants by mail. The overall response rate was 38.0% for Total Force and 39.6% for POWR. Data for this report come from a combined dataset of variables common to the Total Force and POWR datasets, forming one of the largest sets of data on military females. The data for the combined dataset were weighted so that they would represent all Military personnel.

The highlights, noted in the following paragraphs, are reported in four sections: (1) health status and health care utilization; (2) health behaviors; (3) psychosocial functioning; and, (4) female health issues. Comparisons between Reserve/Guard and Active-Duty personnel are discussed, and significant sex differences are noted where applicable. Some of the findings noted below do not include accompanying percentages because of the large number of comparisons being described. All estimates can be found in the report's tables.

## Health Status and Health Care Utilization

Key findings about health status and health care utilization indicate that females in the Military differ from and may not be doing as well as their male counterparts. For instance, fewer females than males rated their health as "excellent" (22.8% vs. 26.6% for Reserve/Guard; 21.0% vs. 29.1% for Active-Duty), and more females than males described themselves as having low vitality (a measure of energy) (38.4% vs. 26.6% for Reserve/Guard; 46.1% vs. 35.5% for Active-Duty). Moreover, significantly more females than males reported having role limitations due to physical or emotional problems. Our investigation of medical conditions revealed that females were more likely than males to suffer from allergies, urinary tract infections, and sexually transmitted diseases. More females than males in the Reserve/Guard (80.0% vs. 65.4%) and the Active-Duty (81.9% vs. 60.0%) reported any (one or more) medical conditions. Significantly more females than males in the Reserve/Guard and Active-Duty reported any visits to both military and civilian health care providers.

Comparisons between Reserve/Guard and Active-Duty personnel yielded a number of notable differences. Although Active-Duty personnel were more likely to report problems with vitality or role limitations than Reserve/Guard personnel, they were less likely to report physical ailments. More Active-Duty than Reserve/Guard personnel scored "low" on vitality (37.0% vs. 28.4%). Role limitations due to physical problems were reported by more Active-Duty personnel than Reserve/Guard members

(22.1% vs. 15.6%). Also, role limitations due to emotional problems were reported by more Active-Duty personnel than Reserve/Guard members (17.5% vs. 13.7%). In terms of medical conditions, Active-Duty personnel were less likely than Reserve/Guard personnel to report chronic rhinitis or hay fever, other allergies, or arthritis. Lifetime prevalence of high cholesterol and high blood pressure was slightly lower among Active-Duty than Reserve/Guard personnel (12.7% of Active Duty vs. 16.9% of Reserve/Guard personnel reported high cholesterol; 9.1% vs. 11.9%, respectively, reported high blood pressure). Not surprisingly, the large majority of Active-Duty personnel (94.6%) had visited a military health care provider one or more times in the past year, and the majority of Reserve/Guard personnel (91.6%) had visited a civilian health care provider one or more times in the past year.

### Health Behaviors

A number of the health behaviors investigated in this study showed significant sex differences. In terms of perceived physical fitness, a significantly higher proportion of females than males considered themselves to be physically fit. For example, about 8% of Reserve/Guard females reported their physical fitness was “excellent” compared to only 3% of Reserve/Guard males. Sex differences for selected eating behaviors were present for Reserve/Guard components and Active-Duty Services.

Specifically, we noted that significantly more females than males indicated that they tried to lose weight, changed their diet due to a medical condition, or ate in secret, while significantly more males

than females reported that they were satisfied with their eating patterns. Moreover, significantly more females than males indicated that the following were important factors in food purchasing: health benefits/nutritional value; taste/likes or dislikes; or eating enjoyment; convenience and ease of preparation; and calories.

In terms of sleep patterns, Active-Duty males were significantly more likely than Active-Duty females to report sleeping 5 to 6 hours (52.7% vs. 47.5%), and Active-Duty females were significantly more likely than Active-Duty males to report sleeping 9 or more hours (4.0% vs. 2.3%). Use of alcohol also showed differences; females generally reported drinking alcoholic drinks on fewer days in the past 30 days, and they reported drinking fewer drinks on a typical day in the past 30 days when compared to males. For example, significantly more Active-Duty females (36.1%) than males (23.7%) reported that they did not drink alcohol in the past 30 days. For number of drinks on a typical day, females in the Reserve/Guard were significantly less likely than their male counterparts to have had one or no drinks in the past 30 days (61.7% vs. 47.0%). In terms of cigarette smoking, we observed that Active-Duty females were significantly less likely than their male counterparts to be current smokers (24.7% vs. 29.6%) or heavy smokers (7.3% vs. 12.6%).

In their current military jobs, females were much more likely than males to report that they did not need to use protective gear. For those who needed to use protective gear, Reserve/Guard females were significantly more likely than Reserve/Guard males

to report that gear was “always” available (68.5% vs. 63.0%) and less likely to report that it was “sometimes” available (27.1% vs. 33.7%). In addition, Active-Duty females who needed to use protective gear were significantly more likely than their male counterparts to report that gear was “never” available.

For health behavior differences between Reserve/Guard and Active-Duty personnel, we noted the following. More Active-Duty than Reserve/Guard personnel reported their fitness was “fair” (30.0% vs. 26.7%) or “poor” (11.9% vs. 7.6%), and fewer reported their fitness was “good” (39.9% vs. 44.1%), “very good” (15.4% vs. 18.0%), or “excellent” (2.8% vs. 3.6%). In terms of dietary behaviors, about one-third (32.8%) of Reserve/Guard personnel said that diet and food choices were important to one’s health, while more than one-half (56.1%) of Active-Duty personnel reported the same. Reports of hours slept on an average night differed among Reserve/Guard and Active-Duty personnel. In the Reserve/Guard, 5 to 6 hours (45.9%) or 7 to 8 hours (46.3%) of sleep were commonly reported, while more Active-Duty personnel indicated that they slept 5 to 6 hours (51.9%) than 7 to 8 hours (38.8%) per night.

Beyond sleep habits, we noted that Reserve/Guard personnel were significantly more likely than their Active-Duty counterparts not to drink alcoholic drinks in the past 30 days (29.2% vs. 25.5%) and significantly less likely to report drinking on 4 to 10 of the past 30 days (18.3% vs. 24.5%). Active-Duty personnel had similar rates of current cigarette smoking compared to Reserve/Guard personnel (28.9% vs. 26.6%) and similar rates of

heavy smoking (11.9% vs. 11.2%). Significantly more Reserve/Guard personnel reported that they “always” used protective gear compared to Active-Duty personnel (57.3% vs. 52.2%).

## Psychosocial Functioning

Females differed significantly from males in terms of their psychosocial functioning, which included (a) exposure to disaster, violence, or accidents; (b) negative and positive life events; (c) need for formal depression evaluation; and (d) suicidal ideation. For exposure to disaster and violence, females were significantly less likely than males to have suffered exposure to a natural disaster, combat or violence, or an accident. Moreover, females were significantly less likely than males to have been exposed to combat or violence whether as a witness, survivor/victim, someone involved in relief efforts, or someone who used deadly force. Aside from these exposure measures, females appeared to have more psychosocial issues with which to contend.

For the estimates of positive and negative life events, few significant sex differences were noted; the most notable difference was that Reserve/Guard females were more likely than their male counterparts to have experienced “many” negative life events (15.5% vs. 8.3%). The prevalence of emotional, sexual, and physical abuse was significantly greater for Reserve/Guard and Active-Duty females in almost every comparison with their male counterparts. For both Active-Duty and Reserve/Guard personnel, the prevalence of treatment or counseling for abuse among those

who reported abuse was also significantly higher for females. In addition, females were more likely than males to need further depression evaluation, although this difference was not significant for every Active-Duty Service or Reserve/Guard component. Notably, Reserve/Guard females were more likely than Reserve/Guard males to have considered suicide within the past 2 months. Surprisingly, females were significantly less likely than males to report high levels of social support.

Differences in psychosocial functioning among Reserve/Guard and Active-Duty personnel were noted. For example, of the different aspects of job stress, stress from responsibilities had the highest prevalence among the Reserve/Guard (31.9%), while among Active-Duty personnel job versus nonjob conflict (43.5%) was greater than the other sources of job stress. Additionally, Active-Duty personnel were more likely than Reserve/Guard members to report a risk level of overall job stress (45.0% vs. 27.8%). Also, the overall prevalence of need for formal depression evaluation was significantly higher among Active-Duty personnel (27.4%) than among Reserve/Guard members (22.9%). The Reserve/Guard reported more social support than did the Active-Duty (41.1% vs. 31.7%).

### **Female Health Issues**

Military females were asked about pregnancy and childbirth, gynecological history, menstrual and gynecological conditions, and cervical and breast health. Age at first menstruation (menarche), as well as age at first live birth, were

similar for Reserve/Guard and Active-Duty personnel. About 90% of females reached menarche between 10 and 15 years, and the majority (55.3% for Reserve/Guard and 59.5% for Active-Duty) experienced their first childbirth between ages 21 and 30. Active-Duty and Reserve/Guard females were similar in the duration that they used birth control pills, with over three-quarters of females having some history of taking oral contraceptives.

Females in the Reserve/Guard were significantly more likely than those on Active-Duty to have taken replacement estrogens in the past 30 days (7.5% vs. 3.7%). In addition, about 78% of Reserve/Guard females and 87% of Active-Duty females reported having been pregnant since joining the Military. Reserve/Guard females were significantly less likely to have been pregnant since joining the Military compared to those on Active-Duty. They also were significantly less likely to report being pregnant at the time of the survey (2.7% vs. 11.3%).

In terms of these female health issues, we noted additional differences for females in the Reserve/Guard in comparison to those on Active-Duty. For example, significantly more Reserve/Guard than Active-Duty females reported they had cramps or pain during menstruation that required time off work (30.1% vs. 24.5%). Significantly more Active-Duty females reported bleeding between periods (15.4% vs. 11.0%). In addition, yeast or vaginal infection in the past 3 months was reported at a significantly higher rate among Active-Duty compared to Reserve/Guard females (26.4% vs. 21.9%).

Moreover, Active-Duty females were significantly more likely than Reserve/Guard females to have had a Pap smear in the year preceding the survey (76.9% vs. 71.0%), but receipt of Pap smears was high among females in all segments of the Military. Although Active-Duty females were significantly more likely than Reserve/Guard females to have had a breast exam by a medical provider in the preceding year (75.1% vs. 70.6%), the prevalence was high among military females.

These findings suggest many avenues for intervention and education that the DoD might consider. Among them are the following:

- lowering further the prevalence of high cholesterol and high blood pressure;
- encouraging males to visit health care providers;
- providing nutrition education, particularly for females;
- reducing alcohol use, especially among males and Active-Duty personnel;
- emphasizing smoking cessation;
- enhancing the availability of protective gear and of occupational safety training;
- providing education abuse prevention, as well as encouraging victims to seek counseling;

- screening for depression among all personnel;
- advising women to seek prenatal care; and
- educating about the importance of routine breast self-examinations.

Maintaining the health of all Military personnel is important to mission readiness as the Military moves to the 21<sup>st</sup> century. The findings noted above and other related findings are discussed in greater detail in the report.

## 1. INTRODUCTION

Prior research on military health and health-related issues has focused generally on military men and on the Active-Duty Services. Consequently, broad-based epidemiological and health services data about military females are lacking, and no comprehensive data are available across all segments of the Military. In the early 1980s, less than 10% of the Armed Forces was female, but by 1998 that percentage was approximately 14% of the force for a total of nearly 200,000 females on Active-Duty (Bray et al., 1983, 1999; Burt, Biegel, Carnes, & Farley, 1980; Institute of Medicine, 1995). Although females in the U.S.

Military have traditionally tended to hold administrative support or health-related occupational positions, all occupations in principle are open to females except those related to direct offensive ground combat (Hoiberg & White, 1993; Naylor & Walker, 1994; Stanley & Segal, 1988). In the Persian Gulf War, however, approximately 33,000 females served in combat-supporting roles, including serving as airplane and helicopter pilots, performing construction and repair, and participating in artillery direction (Becraft, 1992). With the expanding role of females in the Military, the development of baseline data to monitor changes in health status within the Department of Defense (DoD) is of critical importance.

Given the importance of military readiness, increasing pressures to downsize the Active-Duty Services have required greater cooperation and support from Reserve/Guard personnel. DoD policy supports the concept of a “seamless” Military in which

the Active-Duty Services and the Reserve/Guard components work together to meet any national defense requirement. Desert Shield/Desert Storm demonstrated the importance of the Reserve/Guard components. These units assimilated into Active-Duty units, shouldered burdens as individual units performing specific tasks, and met needs in the continental United States (CONUS) when the Active-Duty forces were deployed. Clearly, their readiness enabled them to take on these tasks and was as critical as that of the Active-Duty forces.

Multiple large research efforts have been under way within the DoD to understand and analyze the health status, health behaviors, and physical condition of the Active-Duty Military (Institute of Medicine, 1995). Until quite recently, however, the Reserve/Guard components have not received such attention. The Desert Shield/Desert Storm experience showed that previously held concepts of Reserve/Guard health were incorrect. It was assumed that because Reserve/Guard personnel were responsible for maintaining their own health, they could be considered “ready” for possible deployment. Many Reserve and Guard members were discovered to have previously unknown (to the Military, but known to the individual) health conditions that affected their ability to be deployed. The Persian Gulf War illustrated that the health status of the Reserve/Guard personnel may affect their readiness.

Given the changing role of females in the Military and the changing role of the Reserve/Guard components, this study was undertaken so the DoD would have detailed information about these issues and how they affect the DoD's efforts to create a "seamless" and combat-ready Military.

## 1.1 Objectives of This Report

In this report, we present the primary findings from a combined dataset from two large-scale studies (a) the Health Status of Military Women and Men in the Total Force, also referred to as the 1998 Total Force Health Assessment, conducted by the Research Triangle Institute (RTI) of Research Triangle Park, North Carolina, and (b) the 1995 POWR Assessment: Perceptions of Wellness and Readiness conducted by the Naval Health Research Center (NHRCC) of San Diego, California. The Total Force Health Assessment surveyed all segments of the Military (Active-Duty Services and Reserve/Guard components) except Active-Duty Navy and Marine Corps personnel. The POWR Assessment surveyed Active-Duty personnel in the Navy and Marine Corps (Hourani, Yuan, Bray, & Wheless, 1998). In combination, these data form a comprehensive dataset for personnel from all segments of the Military, and notably, represent one of the largest sets of data on females in the Military.

This report presents results from a broad array of baseline information from five general areas: (1) health status, (2) health care utilization, (3) health behaviors, (4) psychosocial functioning,

and (5) female health issues. The specific objectives of this report are to

- provide baseline epidemiological data on health issues and a broad range of potential risk factors,
- compare females and males within the Active-Duty Services and the Reserve/Guard components to assess who are most at risk of experiencing health problems,
- suggest areas in which health promotion and other interventions can be targeted to improve the health of females and males in the Military, and
- specify gaps in understanding that are in need of further study.

Thus, this report provides baseline information from a combined dataset of variables common to the Total Force Health Assessment and the POWR Assessment. Moreover, in keeping within the larger goals of this study, these specific objectives highlight two major purposes. One purpose is to present data for females on a variety of health issues and compare females' health status to that of males. In addition, another purpose is to provide and compare estimates for both Reserve/Guard and Active-Duty personnel.

## 1.2 Organization of This Report

In this report, the main topics are the health-related issues among U.S. forces throughout the world and the health status of U.S. military personnel. We describe the methodology for the Total Force Health Assessment in greater detail because the methodology for POWR has already been reported (Hourani et al., 1996). In Chapter 2, we describe the sampling design, questionnaire development, data collection procedures, survey performance rates, combining the Total Force and POWR datasets, key definitions and measures, sample participants and military population characteristics, analytical approach, variability and suppression of estimates, and strengths and limitations of the data.

In Chapter 3, we describe health status and role limitations, lifetime prevalence of medical conditions, the number of medical conditions, and the number and nature of visits to a health care provider in the 12 months preceding the receipt of the questionnaire. Chapter 4 examines a variety of health behaviors, including physical fitness, diet, sleep, alcohol use, cigarette smoking, and the use of protective gear at work. In Chapter 5, we report on such stressors as job stress and exposure to violence as well as how personnel perceive their lives by examining life satisfaction, positive and negative life events, and mental health issues. Chapter 6 examines a number of female health issues, including pregnancy status, gynecological conditions, and cervical and breast health.

In general, the tables presented in this report are paired such that Reserve/Guard estimates are presented in the first table of the pair (A) and the Active-Duty estimates are presented in the second table of the pair (B). Given the objectives of this report, we compare key subgroups, such as military females to military males, as well as these personnel within and across various segments of the Military (Active-Duty Services vs. Reserve/Guard components).

We also have included several appendices to assist readers interested in details about our sampling and analysis methodologies, the study questionnaires, and additional tables. Appendix A describes the sampling design and performance rates for the Total Force Health Assessment, and Appendix B discusses our sampling weighting and estimation procedures. We have designed Appendix C to help readers use our estimates of sampling errors and to clarify the suppression rule used with the estimates. Appendix D contains a set of standard error tables that augment data reported in the main text. Appendix E lists the Total Force advisory panel members. Finally, Appendix F contains a copy of the instrument for the 1998 Total Force Assessment, and Appendix G contains a copy of the 1995 POWR Assessment questionnaire.

## 2. METHODS

In this chapter, we describe the methodology used for the 1998 Total Force Health Assessment, including an overview of the sampling design, questionnaire development, data collection procedures, and survey performance rates. We also discuss the methodology used to combine the Total Force data with the POWR data, thereby creating a combined dataset exploring these issues for personnel in all of the Reserve/Guard components and Active-Duty Services. Details concerning the methodology of the 1995 POWR study have been reported elsewhere (Hourani et al., 1996). Key definitions and measures, however, as well as a description of the study respondents, are included in this chapter.

### 2.1 Sampling Design

The target population for the 1998 Total Force Health Assessment study included all personnel in the following Active-Duty Services or Reserve/Guard components:

- Active Army,
- Army National Guard,
- Army Reserve,
- Naval Reserve,
- Active Air Force,
- Air National Guard,
- Air Force Reserve, and
- Marine Corps Reserve.

In Section 2.1 we outline the sampling design, and in Section 2.2 we explain questionnaire development. In Section 2.3, we describe the data collection plans for the 1998 Total Force Health Assessment. Section 2.4 briefly explains the survey performance rates, and Section 2.5 discusses the process we used to combine the Total Force and POWR datasets. Section 2.6 describes our key definitions and measures, and Section 2.7 explores the sample characteristics and the Military population's characteristics. The remainder of this chapter examines our analytical approach (Section 2.8), the variability and suppression of estimates (Section 2.9), and the strengths and limitations of the data (Section 2.10).

This study was developed as a complement to the POWR survey and, therefore, excluded military personnel in the active Navy and active Marine Corps. A stratified sample of 47,990 military personnel was selected from the June 1998 files maintained by the Defense Manpower Data Center (DMDC). Strata were constructed using the following variables: sex, Service, pay grade group, race/ethnicity, and location. Details of the sampling design are provided in Appendix A.

## 2.2 Questionnaire Development

At the initiation of the Total Force Health Assessment, the intention was to use the questionnaire developed by the Naval Health Research Center (NHRC) for the POWR study with a few modifications that would make it applicable to the Reserve/Guard components. POWR was designed to assess the health status of Active-Duty Navy and Marine Corps personnel with regard to reproductive health, medical history, nutritional status, mental health, lifestyle factors, occupational/environmental risks and stressors, and use of health services. In developing the POWR questionnaire, the NHRC gave priority to using well-established instruments that (a) had published and reliable psychometric properties, (b) were appropriate to an Active-Duty military population, and (c) were brief. Their emphasis was on using questions from standardized, large national health surveys and other military surveys for comparability.

Early in the discussions with a military advisory panel (a list of panel members appears in Appendix E), it became apparent that a number of changes would be necessary to address their needs. To be responsive to their suggestions, the study team agreed to revise the questionnaire beyond the modifications we had expected to make. Consequently, advisory panel members became active participants in reviewing and shaping the content of the questionnaire and provided valuable insight into their priority issues. Not only did they propose new issues to include in the Total Force questionnaire, but they also suggested areas to expand and to eliminate.

As a result of the initial advisory panel meeting, the study team spent many hours reviewing alternative instruments and comparing them with the POWR instrument. As a part of this review process, we also consulted with the NHRC about their analyses of the POWR data. We wanted to retain as much of POWR as possible to preserve our ability to link the two datasets.

In developing the Total Force questionnaire, some items were added to provide more in-depth information about basic study constructs and about emerging issues for the Military. In addition, some items from the POWR questionnaire were not included in the Total Force questionnaire based on preliminary analysis of POWR data or critique from the study advisors. Working with the advisors, we gained an understanding of the needs of each Active-Duty Service or Reserve/Guard component, attended to their concerns, and obtained their advice throughout this process. In addition to their input during meetings, the advisors' availability outside meetings also facilitated our questionnaire development efforts.

The result of this review process was a new instrument called the 1998 Total Force Health Assessment. It retains many of POWR's elements, but it varies in a number of ways. More specifically, in comparison to POWR, the Total Force Health Assessment has

- a reorganized demographics section;

- questions included about payment of medical/dental bills and insurance coverage;
- questions added to assess sexual risk-taking behavior;
- an expanded preventive health section;
- no current medications section;
- no Hopkins 21-symptom checklist, which examines anxiety (because this checklist was highly correlated with the Center for Epidemiologic Studies—Depression [CES-D] scale);
- an expanded time period for measuring stress;
- an increased number of questions assessing tobacco use;
- an increased number of questions assessing alcohol use;
- rephrased questions related to child rearing;
- an expanded deployment section to assess satisfaction with facilities during deployment, re-entry stressors, and deployment deferrals;
- a reformulated occupational exposure section;
- questions added to examine how pregnancy may limit work performance; and

- questions modified pertaining to planned pregnancies and prenatal care.

The final questionnaire used for the Total Force Health Assessment appears in Appendix F. Appendix G contains the POWR questionnaire.

To assess the utility of the Total Force questionnaire, a pilot test was conducted with personnel from the Active-Duty Services and the Reserve/Guard components. This was done through group administrations, with 185 people (104 men and 81 women). After these personnel finished the questionnaire, small-group debriefing sessions were held with them as they exited the group administrations. These debriefing sessions allowed us to explore specific issues about the questionnaire in-depth and were particularly beneficial in highlighting issues needing attention.

Based on the pilot test results, we refined the Total Force questionnaire in the following ways:

- expanded the illnesses and injuries section to capture those that limit the respondent's ability to work in his/her non-military job;
- assessed the respondent's strategies for coping with stress;
- explored the cause of any deterrent to receiving health care services;
- made the exercise section more concise;

- increased the number of questions about contraceptive methods;
- introduced a skip pattern that allows respondents who have not had sex or who have not used birth control to skip the questions about contraceptive methods;

- added definitions for physical, sexual, and emotional abuse;

- substituted a different scale to measure the respondent's level of anger;
- revised the deployment section to focus more on the respondent's most recent deployment;
- reformulated the definition for deployment;
- rephrased questions related to occupational hazards;
- allowed female respondents who have had a hysterectomy to skip questions related to menstrual cycles or uterine problems;
- allowed female respondents who have never been pregnant to skip pregnancy-related questions; and
- introduced questions that assess women's ability to work throughout their pregnancies.

As a result of the revisions to the Total Force questionnaire, we lost some of the comparability to the POWR survey. Although our initial goal was to retain comparability, especially in regard to the psychosocial scales included in POWR, our greater priority was to create an instrument that would better meet the Military's needs as indicated by the advisory panel.

### **2.3 Data Collection Procedures**

During the study's second year, data collection plans were finalized and data collection began. We had a number of discussions with the advisory panel members to assess the feasibility of conducting group administration sessions. Although a group administration approach tends to yield a higher response rate compared to other data collection approaches, we determined that it was not feasible to use this methodology for the Reserve/Guard components because of their very limited duty time and heavy commitments during their monthly meetings. Although it was more feasible for Active-Duty personnel, it was not possible to obtain the necessary permissions and support during the time frame and within the budget we had available. Consequently, it was decided the survey would be conducted entirely by mail.

Our data collection involved three questionnaire mailings with a "reminder/thank you" postcard sent between the first and second and between the second and third mailings. The first questionnaire mailing for the study occurred in late September 1998 and consisted of a package that had a letter from a military official encouraging support for the study, a letter of informed

consent information and instructions, the anonymous questionnaire, and a postage-paid return envelope.

To provide credibility to the study, the letters of support were obtained from the various branches of the Military participating in the study. Six different letters were provided by the following officers to cover the range of participating Active-Duty Services and Reserve/Guard components:

- Lieutenant General Charles Roadman, U.S. Air Force Surgeon General, and Major General Robert McIntosh, Chief of Air Force Reserve;
- Rear Admiral G.D. Vaughan, U.S. Naval Reserve;
- Major General Roger Schultz, Director, Army National Guard;
- Brigadier General James Helmly, Deputy Chief, Army Reserve;
- Lieutenant General Ronald Blanck, U.S. Army Surgeon General; and
- Rear Admiral John Weed, U.S. Naval Reserve Force Surgeon, and Major General David Mize, Commander, Marine Forces Reserve.

sent 2 weeks after the first questionnaire mailing. Approximately 8 weeks after the initial questionnaire mailing, the second questionnaire mailing was sent in early December 1998. The second mailing was similar to the first mailing except it contained a revised cover letter and was sent to nonrespondents only. Again, a reminder postcard was sent 2 weeks after the second questionnaire mailing. The third and final questionnaire was sent to nonrespondents in late January 1999, about 8 weeks after the second questionnaire mailing. It was decided to allow at least 8 weeks between questionnaire mailings so there would be ample time for mail delivery to and from military personnel serving overseas.

Completed questionnaires were optically scanned by National Computer Systems (NCS). Working with NCS, we developed a means of maintaining the respondent's anonymity but, at the same time, tracking who had returned a completed questionnaire. Tracking numbers were printed on envelopes, and these envelopes were immediately separated from their questionnaires upon receipt at NCS. NCS staff tracked the receipt of questionnaires so that we could increase the efficiency of the data collection and minimize costs associated with follow-up mailings by limiting them to nonrespondents only.

RTI's communications office drafted a press release to inform members of the Military about the survey and answer what we anticipated would be commonly asked questions about the study. Beginning in August 1998, this information began appearing in publications produced for the Active-Duty, Reserve,

and Guard populations, such as Army Times or the National Guard Magazine. The press coverage was meant to develop an awareness of the study and explain the importance of the data collection effort.

## 2.4 Survey Performance Rates

Performance rate information is useful for assessing the quality of survey field operations and for assessing the potential for nonresponse bias. Performance rates can be used to describe several different aspects of a study, each important from a survey operational perspective or from a statistical perspective. For the Total Force Health Assessment, we computed three performance rates—an eligibility rate, a contact rate, and a response rate among contacted eligible sample members. The eligibility rate, which was 99.9% for this study, represents the percentage of persons selected in the sample who were available to take part in the study when data collection was conducted. Persons who were deceased or had left the Military were considered ineligible. The contact rate refers to the extent to which we mailed questionnaires to selected military members and did not receive any information suggesting that they did not receive it. We excluded persons whose questionnaire packets were returned because of unknown or undeliverable addresses or whose family members called to inform us that the person was in a deployed status and unlikely to get the mail. The contact rate for the study was 82.4%. The response rate was defined as the rate at which contacted eligible persons returned a usable questionnaire; this rate was 38.0%.

Although the eligibility and contact rates were high, the response rate was rather low and raises questions about the potential for nonresponse bias in the survey estimates. The number of nonrespondents among eligible persons was greater than the number of respondents who completed a usable interview.

Because persons who did not respond, estimates based on respondents alone from those who did respond, have the potential to misrepresent the population of interest. To help compensate for this problem, a nonresponse adjustment was made to the data in which the weights were adjusted by poststratifying them to the DoD population totals within selected demographic and pay grade groupings. These adjustments partially compensate for the fact that some age and sex groupings cooperated with the survey at lower rates than did others and tend to diminish differences attributable to varying cooperation rates among respondents in these groups. Nonetheless, they do not entirely rule out the potential for bias.

Despite the low response rate, the extent to which the survey estimates may be biased is unclear. Several factors may have worked in favor of reduced bias. First, bias between respondents and nonrespondents seems most likely if there was a systematic relationship between the survey questions and reasons for nonparticipation (e.g., if questions asked about sensitive behaviors, such as drug use or illegal behavior, that might implicate respondents). The fact that most of the items did not ask about sensitive behaviors may have resulted in less bias. Second, the large number of respondents may have worked in favor of less bias. Large numbers of respondents provide an opportunity for a

wide range of attitudes and behaviors to be expressed and represented and may help mitigate against bias. As described in Section 2.5, the combined Total Force and POWR sample totaled nearly 25,000 respondents (24,881). Third, comparisons of these data with another recent survey that had a higher response rate showed comparable results. We compared the Total Force Health Assessment's smoking rates for the Army and Air Force with those of the same Services from the 1998 DoD Survey of Health Related Behaviors Among Military Personnel (Bray et al., 1999) and found highly similar results between the two studies (estimates were within approximately 1 percentage point of one another for the Active-Duty Services). To the extent that this pattern occurred for other data, the bias may be minimal in the present study.

## 2.5 Combining the Total Force and POWR Datasets

After the Total Force data collection was completed, the Total Force data were examined to identify problems with the data, such as missing data and inconsistent responses. Editing was performed to correct problems where possible. The POWR dataset was edited previously, so it was not necessary to reexamine it. We then turned our attention to creating a comprehensive dataset of the entire Military by combining the Total Force data ( $n=15,025$ ) with the POWR data ( $n=9,856$ ). In this section, we describe the methods used to create the comprehensive dataset. Based on our questionnaire development efforts, we knew that only some of the variables from the Total Force or the POWR datasets were similar enough to be included in the combined dataset. Thus, we began this process of creating a combined dataset by identifying the

variables common to the Total Force and POWR datasets with the goal of retaining as much information as possible.

We approached the task of creating the comprehensive dataset cautiously to maintain the validity and integrity of the data, understanding that even minor changes in question wording, format, or context can alter the results (Schwarz, 1999). With that in mind, we compared the Total Force questionnaire against the POWR questionnaire, eliminating, the obviously incompatible questions and noting those questions that were compatible. As part of this process, we documented the differences in question wording, question introduction, response options, and formatting. We decided to include a variable in the comprehensive dataset if the differences between questionnaires did not appear to dramatically change the meaning of the question or otherwise greatly alter the pattern of responses.

After all variables were identified for the comprehensive dataset, we examined the data files separately to identify potential issues that would affect the combination of the two datasets, such as response options that were coded differently. These issues were resolved by creating identical new variables in the Total Force and POWR datasets. These new variables formed the comprehensive dataset, which was thoroughly examined for errors. Frequencies and cross-tabulations of each new variable with its original variables were examined to verify that the procedure was performed correctly. The comprehensive dataset consisted of 24,881 records.

## 2.6 Key Definitions and Measures

### 2.6.1 Demographic Characteristics

The sociodemographic characteristics presented in Tables 1A, 1B, 1C, 2A, 2B, and 2C include sex, Service, race/ethnicity, education, age, marital status, and pay grade. All the analyses in this report are based on the sex and Service variables (the Service variable is an umbrella name that represents all Active-Duty Services and Reserve/Guard components). Definitions for these characteristics are described by the following:

**Sex**  
Sex was defined as male or female.

**Service**  
Active-Duty Services were as follows:  
Army, Navy, Marine Corps, and Air Force.  
Reserve/Guard components were as follows:  
Army Reserve, Army National Guard, Naval Reserve, Marine Corps Reserve, Air Force Reserve, and Air National Guard.

**Race/Ethnicity**  
We divided personnel into the following racial/ethnic groups: non-Hispanic white; non-Hispanic black; Hispanic; American Indian or Alaskan Native; Asian/Filipino/Pacific Islander; and other.

**Education**  
We defined education as the highest level of educational attainment. The three education categories are high school or less, some college, and college degree or beyond. Personnel with General Equivalency

Diplomas (GEDs) were classified as high school graduates.

**Age**  
We defined age of respondents as current age at the time of the survey. Ages were grouped as 20 or younger, 21 to 25 years old, 26 to 34 years old, and 35 years old or older.

**Marital Status**  
Personnel were defined as either “married” or “not married”. Personnel defined as not married were those who were single, living as married, widowed, and divorced or separated. Personnel defined as “married” were those legally married.

**Pay Grade**  
Military pay grades for enlisted personnel were grouped as E1-E3, E4-E6, E7-E9, W1-W5, O1-O3, and O4-O10.

### 2.6.2 Health Scales and Measures

Several physical and mental health constructs were assessed using established health scales: health status and role limitations using the Medical Outcome Study (MOS) 36-item Short Form (SF-36) (Ware & Sherbourne, 1992), job stress using the Job Pressures Scale (House, 1980; House, McMichael, Wells, Kaplan, & Landerman, 1979), depression using a shortened form of the Center for Epidemiologic Studies—Depression (CES-D) scale (Radloff, 1977), and social support using the Social Network Index (Berkman & Syme, 1979; Strawbridge, 1995). The

comprehensive dataset includes variables that make up these scales. The responses were scored and the measures were developed according to each scale's protocol. In nearly all cases, data from the health scales are presented as high, medium, or low relative to the entire range of responses received for the scale, except in the case of depression screening. For depression screening, we used a cutpoint to determine who seemed to be depressed. Descriptions of the health scales used and their scoring methodologies are detailed below.

#### Measures of health status (Tables 3A and 3B) and role limitations (Tables 4A and 4B) are presented in Chapter 3.

General health status was measured by a single question. Three subscales of the widely used SF-36 health scale measured role limitations and other aspects of health status. The SF-36 was developed by the Rand Corporation to measure general health status (Ware & Sherbourne, 1992). It consists of eight subscales; the three that are reported for this study are role limitations due to physical health problems, role limitations due to emotional problems, and vitality (a measure of energy). For role limitations, respondents answered "yes" or "no" to questions assessing their ability to perform work and other activities; for vitality, responses to items about feeling energetic and tired were scored on a six-point scale ranging from "none of the time" to "all of the time." Scores can be computed for respondents with small amounts of missing data. As recommended in the SF-36 scoring manual, scores were calculated for respondents who answered at least half the items in each scale (or half plus one for scales with an odd number of items) (Ware, Snow, Kosinski, & Gandek, 1993). Raw

scale scores were computed by summing the points across each subscale and then transformed to a 0 to 100 scale.

Based on these final scores, respondents in the highest third on the vitality subscale were classified as "high," the middle third as "medium," and the lowest third as "low," as shown in Tables 3A and 3B. On the role limitations subscales, a high final score corresponds to better role functioning and a classification as having "low" role limitations (see Tables 4A and 4B). In contrast, those respondents classified as "high" were those whose scores indicated the presence of role limitations.

Job stress (Tables 25A and 25B) was measured using the 12-item Job Pressures Scale developed by James House at the University of Michigan from his work on occupational mental health (House, 1980; House et al., 1979). Each item describes a potentially stressful work scenario, with responses representing the frequency of occurrence of the scenario. The scale measures four different aspects of job stress: responsibility, quality concern, role conflict, and job versus nonjob conflict, with the sum of the subscales yielding an overall job stress score. Responses were scored on a five-point scale ranging from "not at all" (zero points) to "nearly all the time" (four points), and scores for relevant items were summed to arrive at subscale scores, and across all items to arrive at an overall measure of job stress. Respondents scoring in the top third on each of these scales were classified as "high," those in the middle third as "medium," and those in the lowest third as "low."

Depression (Tables 29A and 29B) was assessed using a shortened form of a depression screening questionnaire developed by the National Institute of Mental Health, the CES-D (Radloff, 1977). The shortened CES-D consists of seven items measuring the frequency of depressive symptomatology during the past 7 days, with responses on a four-point scale ranging from a score of zero for the response, “rarely or none of the time (less than 1 day),” to a score of three for the response, “most or all of the time (5-7 days).” Responses to the seven questions were summed to give a score between 0 and 21, and following the method described by Shroud and Yager (1989), a score greater than 5.6 was considered an indicator of depression. Depression was assessed only for respondents who completed all seven items of the scale.

The Social Network Index (Tables 30A and 30B) was used to measure social support. This instrument, developed by the Human Population Laboratory, consists of five questions assessing self-reported numbers and frequency of social contacts, including contacts with relatives, friends, spouses, social groups, and a church (Berkman & Syme, 1979; Strawbridge, 1995). Following the scoring protocol, a “relatives and friends” score was assigned based on the number of close friends and relatives reported, then added to a score for the frequency of contact with them to yield a sociability score. Marital status was then taken into account in conjunction with the sociability score to give an index of intimate ties. Finally, social group and church membership were assigned point values and summed with the index of intimate ties to yield a social network index score ranging from 0 to 12. Respondents scoring in the top third on the Social Network Index were

classified as having “high” social support, those in the middle third as “medium,” and those in the lowest third as “low.”

### 2.6.3 Alcohol and Cigarette Use

Table 21B presents measures of alcohol use, including the number of days alcohol was consumed in the past 30 days, and the number of alcoholic drinks consumed on a typical day in the past 30 days. We use the term “binge drinking” to identify the drinking of excessive amounts of alcohol during a typical drinking occasion. The definition of binge drinking differs by sex. For males, consuming five drinks or more per typical occasion is considered binge drinking; for females, the threshold is four drinks or more (Wechsler, Dowdall, Davenport, & Rimm, 1995). For the measure assessing the number of drinks consumed on a typical day, the wording of the Total Force Health Assessment differed slightly from that of the POWR questionnaire. The Total Force questionnaire asked: “Think about the days when you drank in the past 30 days. How many drinks did you usually drink on a typical day?” This wording differs slightly from the wording used in the POWR questionnaire, which asked: “During the past 30 days, how much alcohol did you drink on a typical day?” Despite the differences in wording, the estimates for Active-Duty Army and Air Force, surveyed with the Total Force questionnaire, and the estimates for Active-Duty Navy and Marine Corps, surveyed with the POWR questionnaire, were similar.

Two levels of cigarette use are presented in Tables 21A and 21B: “current” smoker and “heavy” smoker. Military personnel

were defined as “current” smokers when they indicated that they smoked at least 100 cigarettes during their lifetime and that they had smoked in the past 30 days. Personnel were defined as “heavy” smokers if they were current smokers and also indicated that they smoked at least one pack of cigarettes a day in the past 30 days.

## 2.7 Sample Participants and Military Population Characteristics

In this section, we present the distribution of study respondents by selected sociodemographic characteristics, as well as weighted population estimates presented as percentages by sociodemographic characteristics. Tables 1A, 1B, and 1C display the number of usable questionnaires returned from Reserve, Guard, and Active-Duty personnel, respectively. Tables 2A, 2B, and 2C display population estimates of eligible Reserve, Guard, and Active-Duty personnel. These estimates are based on data from the sample respondents that were weighted and poststratified to represent the eligible respondent population (see Appendix B for a discussion of weighting procedures).

total number of Reserve and Guard respondents together is 9,229, with 33% of these being female.

Among the Reserve components, the Naval Reserve had the most respondents (1,908), followed by the Army Reserve (1,858), and the Air Force Reserve (1,020). The fewest number of responses came from the Marine Corps Reserve (923). Most Reserve personnel reported their race/ethnicity as non-Hispanic white (2,721), followed by Hispanic (1,612) and

Asian/Filipino/Pacific Islander (668). Most had some college education (2,246) or a college degree (2,766), were over the age of 25 (4,755), were married (3,299), and were in an E4-E6 pay grade (2,509). However, many Reserve respondents were in an O4-O10 pay grade (1,324).

Table 1B shows that the Army National Guard had 2,003 respondents, while the Air National Guard had 1,517. Most Guard personnel reported their race/ethnicity as Hispanic, followed by non-Hispanic white, and Asian/Filipino/Pacific Islander. Most had some college education or a college degree, were over the age of 25, were married, or were in an E4-E6 pay grade.

Table 1A displays the distribution of study respondents for each Reserve component, and Table 1B displays the Guard component, by sociodemographic characteristics. Overall, we obtained 5,709 usable questionnaires from the sampled Reserve personnel. Females account for 2,077 of this total, or about 36%. For the Guard component, we received 3,520 usable questionnaires, with about 26% of them from females (927). The

Table 1C shows the sociodemographic distribution of the 15,265 Active-Duty respondents who completed a usable questionnaire. Active-Duty females accounted for 6,897 of the total number of Active-Duty personnel, or about 45%. The Navy had the highest number of respondents (7,861). The Army had the next highest number of respondents (3,361), followed by the Air Force (2,297), and the Marine Corps (1,746).

**Table 1A Number of Reserve Respondents, by Sociodemographic Characteristics**

Characteristic	Army Reserve			Naval Reserve			Marine Corps Reserve			Air Force Reserve			Total Reserve Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>															
White – not Hispanic	172	234	406	444	775	1,219	155	428	583	162	351	933	1,788	2,721	
Black – not Hispanic	168	87	255	56	66	122	29	48	77	24	26	50	277	227	504
Hispanic	309	472	781	121	241	362	37	153	190	101	178	279	568	1,044	1,612
American Indian/Alaskan Native	28	30	58	13	14	27	0	2	2	7	16	23	48	62	110
Asian/Filipino/Pacific Islander	119	197	316	53	108	161	3	52	55	40	96	136	215	453	668
Other	14	28	42	9	8	17	3	13	16	10	9	19	36	58	94
<b>Education</b>															
High school or less	102	191	293	45	128	173	34	116	150	21	46	67	202	481	683
Some college	332	433	765	270	356	626	114	378	492	130	233	363	846	1,400	2,246
College degree or beyond	375	418	793	380	726	1,106	79	199	278	192	397	589	1,026	1,740	2,766
<b>Age</b>															
20 or younger	89	67	156	1	2	3	23	99	122	7	2	9	120	170	290
21 to 25 years old	138	104	242	22	43	65	57	241	298	20	19	39	237	407	644
26 to 34 years old	215	274	489	168	317	485	58	187	245	70	125	195	511	903	1,414
35 or older	366	597	963	505	846	1,351	88	167	255	243	529	772	1,202	2,139	3,341
<b>Marital Status</b>															
Not married	509	406	915	298	330	628	134	423	557	144	153	297	1,085	1,312	2,397
Married	300	638	938	397	880	1,277	93	273	366	198	320	718	988	2,311	3,299
<b>Pay Grade</b>															
E1-E3	100	89	189	29	38	67	64	204	268	8	8	16	201	339	540
E4-E6	367	489	856	347	514	861	74	312	386	147	259	406	935	1,574	2,509
E7-E9	59	170	229	64	90	154	45	63	108	44	95	139	212	418	630
W1-W5	10	24	34	1	12	13	12	17	29	NA	NA	NA	23	53	76
O1-O3	168	115	283	65	100	165	7	24	31	58	93	151	298	332	630
O4-O10	106	161	267	190	458	648	25	76	101	87	221	308	408	916	1,324
<b>Total Reserve</b>	810	1,048	1,858	696	1,212	1,908	227	696	923	344	676	1,020	2,077	3,632	5,709

Note: Table entries are numbers of respondents who completed a usable questionnaire.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 1B Number of Guard Respondents, by Sociodemographic Characteristics**

Characteristic	Army National Guard			Air National Guard			Total Guard Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>									
White – not Hispanic	91	332	423	170	476	646	261	808	1,069
Black – not Hispanic	46	65	111	29	34	63	75	99	174
Hispanic	227	773	1,000	145	302	447	372	1,075	1,447
American Indian/Alaskan Native	39	87	126	27	51	78	66	138	204
Asian/Filipino/Pacific Islander	52	250	302	62	167	229	114	417	531
Other	16	25	41	23	31	54	39	56	95
<b>Education</b>									
High school or less	75	506	581	39	115	154	114	621	735
Some college	270	711	981	227	522	749	497	1,233	1,730
College degree or beyond	124	311	435	190	423	613	314	734	1,048
<b>Age</b>									
20 or younger	61	100	161	13	15	28	74	115	189
21 to 25 years old	88	156	244	43	62	105	131	218	349
26 to 34 years old	133	457	590	153	241	394	286	698	984
35 or older	189	811	1,000	244	737	981	433	1,548	1,981
<b>Marital Status</b>									
Not married	295	583	878	230	284	514	525	867	1,392
Married	175	938	1,113	225	776	1,001	400	1,714	2,114
<b>Pay Grade</b>									
E1-E3	98	152	250	24	15	39	122	167	289
E4-E6	269	1,005	1,274	247	538	785	516	1,543	2,059
E7-E9	30	159	189	88	250	338	118	409	527
W1-W5	9	39	48	NA	NA	NA	9	39	48
O1-O3	50	96	146	45	74	119	95	170	265
O4-O10	15	81	96	52	184	236	67	265	332
<b>Total Guard</b>	471	1,532	2,003	456	1,061	1,517	927	2,593	3,520

Note: Table entries are numbers of respondents who completed a usable questionnaire.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 1C Number of Active-Duty Respondents, by Sociodemographic Characteristics**

Characteristic	Total Active-Duty Personnel										
	Army			Navy			Marine Corps			Air Force	
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males
<b>Race/Ethnicity</b>											
White – not Hispanic	211	459	670	2,732	2,676	5,408	557	535	1,092	183	460
Black – not Hispanic	155	168	323	781	455	1,236	163	187	350	82	72
Hispanic	495	1,050	1,545	236	235	471	99	83	182	314	547
American Indian/Alaskan Native	58	90	148	28	36	64	14	16	30	35	34
Asian/Filipino/Pacific Islander	206	362	568	166	370	536	24	28	52	178	317
Other	36	71	107	85	61	146	23	17	40	36	39
<b>Education</b>											
High school or less	206	449	655	1,028	1,251	2,279	271	263	534	130	168
Some college	585	1,082	1,667	1,776	1,416	3,192	374	235	609	437	708
College degree or beyond	365	668	1,033	1,096	1,015	2,111	195	333	528	257	586
<b>Age</b>											
20 or younger	121	155	276	278	75	353	89	41	130	89	65
21 to 25 years old	349	406	755	1,049	576	1,625	310	163	473	241	233
26 to 34 years old	394	801	1,195	1,513	1,544	3,057	267	262	529	242	479
35 or older	287	825	1,112	1,156	1,608	2,764	205	391	596	253	685
<b>Marital Status</b>											
Not married	600	657	1,257	1,930	1,047	2,977	434	252	686	393	395
Married	555	1,536	2,091	2,079	2,762	4,841	441	608	1,049	432	1,068
<b>Pay Grade</b>											
E1-E3	184	250	434	685	129	814	181	84	265	189	158
E4-E6	566	979	1,545	2,136	2,021	4,157	398	164	562	356	643
E7-E9	140	441	581	386	862	1,248	111	244	355	105	241
W1-W5	32	103	135	13	47	60	43	71	114	NA	NA
O1-O3	159	235	394	464	353	817	101	190	291	114	220
O4-O10	80	192	272	344	421	765	46	113	159	64	207
<b>Total Active Duty</b>	<b>1,161</b>	<b>2,200</b>	<b>3,361</b>	<b>4,028</b>	<b>3,833</b>	<b>7,861</b>	<b>880</b>	<b>866</b>	<b>1,746</b>	<b>828</b>	<b>1,469</b>
											<b>2,297</b>
											<b>6,897</b>
											<b>8,368</b>
											<b>15,265</b>

Note: Table entries are numbers of respondents who completed a usable questionnaire.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

The largest number of Active-Duty respondents reported their race/ethnicity as non-Hispanic white (7,813), followed by Hispanic (3,059), and non-Hispanic black (2,063). Most respondents had some college education (6,613), were over 25 years old (10,912), and were married (9,481). Most respondents reported being in an E4-E6 pay grade (7,263) or E7-E9 pay grade (2,530).

Table 2A shows percentage estimates for sociodemographic characteristics of Reserve personnel. For all the Reserve components except the Marine Corps Reserve, females represented between 20% and 25% of personnel. The Army Reserve had the most female representation (24.6%), while the Marine Corps Reserve had the least (4.4%). Overall, Reserve personnel tended to be non-Hispanic white (67.5%), with some college education (46.9%) or a college degree or beyond (35.0%), over 35 years old (51.7%), married (55.9%), and in an E4-E6 pay grade (53.0%).

Female Reservists tended to be non-Hispanic white (56.4%) or non-Hispanic black (32.1%), have some college education (49.7%) or a college degree (37.2%), be over 35 years old (50.6%) or between 26 to 34 years old (25.0%), be unmarried (60.2%), and be in an E4-E6 pay grade (52.5%). Males were similar to females in these characteristics, except that more males reported being married (60.1%), and a higher percentage were white (70.3%) while fewer were black (16.3%).

Table 2B shows percentage estimates for sociodemographic characteristics of Guard personnel. About 16% of the Air National

Guard were female, while about 10% of the Army National Guard were female. Overall, a majority of Guard personnel were white (75.4%), had a high school education or less (30.6%) or some college education (48.6%), were married (57.0%), and were in an E4-E6 pay grade (63.7%). Most Guard females were white (66.1%), had some college education (54.0%), were unmarried (61.2%) and were in an E4-E6 pay grade (57.5%). Male Guard personnel were similar to females in that more Guard males were white (76.7%) and married (59.4%). A larger percentage of male Guard personnel reported having a high school degree or less (32.3%) compared to female Guard personnel (17.3%).

Table 2C shows that about 14% of Active-Duty personnel were female. The Air Force had the highest percentage of female personnel (18.3%), followed by the Army (14.7%), the Navy (13.1%), and finally the Marine Corps (5.8%). Most of the Active-Duty personnel were white (66.5%), had some college education (43.9%), were 26 to 34 years old (35.0%), were married (59.2%), and were in an E4-E6 pay grade (48.8%). Males and females were similar, but females were more likely to report being unmarried (55.4%) compared to males (37.9%).

## 2.8 Analytical Approach

The focus of our analyses for this report was to provide baseline information for five general areas: (1) health status, (2) health care utilization, (3) health behaviors, (4) psychosocial functioning, and (5) female health issues. Further, the sample design and the resulting dataset allowed for statistical comparisons

**Table 2A** Sociodemographic Characteristics Among Reserve Personnel

Characteristic	Army Reserve			Naval Reserve			Marine Corps Reserve			Air Force Reserve			Total Reserve Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>															
White – not Hispanic	49.4	64.9	61.1	66.4	76.8	74.8	63.7	70.4	70.1	67.7	76.8	74.9	56.4	70.3	67.5
Black – not Hispanic	38.6	21.1	25.4	22.4	11.5	13.5	17.1	10.9	11.2	22.9	13.4	15.4	32.1	16.3	19.6
Hispanic	6.6	8.4	8.0	6.4	7.1	7.0	14.0	12.8	12.8	4.4	5.1	5.0	6.3	8.1	7.7
American Indian/ Alaskan Native	1.0	0.6	0.7	1.0	0.4	0.6	**	0.2	0.2	0.5	0.6	0.6	0.9	0.5	0.6
Asian/Filipino/ Pacific Islander	4.0	4.2	4.2	3.3	3.9	3.8	2.9	4.9	4.8	3.5	3.7	3.7	3.7	4.1	4.1
Other	0.4	0.8	0.7	0.5	0.3	0.3	2.3	0.9	0.9	0.9	0.4	0.5	0.6	0.6	0.6
<b>Education</b>															
High school or less	15.0	19.5	18.4	8.6	17.7	16.0	18.5	20.2	20.2	10.8	14.7	13.9	13.1	18.3	17.2
Some college	50.0	44.3	45.7	50.7	42.1	43.7	52.6	57.7	57.4	47.5	47.7	47.6	49.7	46.2	46.9
College degree or beyond	35.0	34.2	34.4	40.6	39.9	40.0	28.8	21.6	21.9	41.7	37.6	38.5	37.2	34.5	35.0
<b>Age</b>															
20 or younger	18.5	11.1	12.9	0.6	0.3	0.3	15.7	22.5	22.2	1.7	0.1	0.4	11.9	8.2	9.0
21 to 25 years old	15.4	8.9	10.5	3.2	5.3	4.9	32.6	37.4	37.2	8.8	3.1	4.3	12.2	10.7	11.0
26 to 34 years old	23.5	28.1	27.0	29.3	32.3	31.7	25.0	24.0	24.0	25.1	26.7	26.4	25.0	28.2	27.6
35 or older	42.5	50.6	48.6	66.8	61.8	62.8	25.6	15.8	16.2	62.7	69.1	67.7	50.6	52.0	51.7
<b>Marital Status</b>															
Not married	67.4	40.3	47.0	47.1	35.0	37.3	65.4	68.7	68.5	50.0	22.7	28.4	60.2	39.6	43.8
Married	32.6	59.1	52.6	52.8	64.9	62.6	34.6	31.3	31.5	50.0	77.2	71.5	39.8	60.1	55.9
<b>Pay Grade</b>															
E1-E3	22.6	14.4	16.4	5.8	6.2	6.1	43.0	47.9	47.7	1.8	0.2	0.5	15.9	14.3	14.6
E4-E6	46.7	49.8	49.1	68.3	63.7	64.5	34.3	36.3	36.2	56.7	61.0	60.1	52.5	53.1	53.0
E7-E9	9.2	13.0	12.0	6.5	8.2	7.9	10.4	5.9	6.1	15.9	17.1	16.9	10.0	11.8	11.4
W1-W5	0.9	1.7	1.5	0.1	0.5	0.4	2.7	1.1	1.2	NA	NA	NA	0.6	1.1	1.0
O1-O3	12.2	9.5	10.1	5.5	4.8	4.9	1.6	1.6	1.6	12.6	8.0	9.0	10.8	7.2	7.9
O4-O10	8.4	11.6	10.8	13.7	16.7	16.1	8.0	7.1	7.1	13.0	13.6	13.5	10.3	12.5	12.0
<b>Total Reserve</b>	24.6	75.4	100.0	18.9	81.1	100.0	4.4	95.6	100.0	20.9	79.1	100.0	20.6	79.4	100.0

Note: Table entries are percentages. Standard errors are shown in Table 2ASE in Appendix D.

NA: Not applicable.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 2B** Sociodemographic Characteristics Among Guard Personnel

Characteristic	Army National Guard			Air National Guard			Total Guard Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>									
White – not Hispanic	62.8	75.3	74.0	73.3	81.5	80.2	66.1	76.7	75.4
Black – not Hispanic	27.1	14.2	15.5	14.8	7.3	8.5	23.2	12.7	13.9
Hispanic	5.9	7.0	6.9	5.3	5.3	5.3	5.7	6.6	6.5
American Indian/Alaskan Native	1.6	0.8	0.9	1.4	1.1	1.2	1.5	0.9	1.0
Asian/Filipino/Pacific Islander	2.0	2.4	2.3	3.8	4.0	4.0	2.5	2.7	2.7
Other	0.7	0.2	0.3	1.4	0.8	0.9	0.9	0.4	0.4
<b>Education</b>									
High school or less	19.4	38.1	36.1	12.8	11.7	11.9	17.3	32.3	30.6
Some college	55.4	44.8	45.9	51.2	59.2	57.9	54.0	47.9	48.6
College degree or beyond	25.2	16.4	17.3	35.9	29.1	30.2	28.6	19.2	20.3
<b>Age</b>									
20 or younger	18.5	12.5	13.1	1.6	0.7	0.9	13.1	9.9	10.3
21 to 25 years old	16.5	9.5	10.2	12.4	9.9	10.3	15.2	9.6	10.3
26 to 34 years old	26.9	32.7	32.1	38.4	24.3	26.6	30.5	30.9	30.8
35 or older	38.1	44.9	44.2	46.7	64.2	61.3	40.8	49.1	48.1
<b>Marital Status</b>									
Not married	64.7	42.7	45.0	53.6	30.8	34.5	61.2	40.1	42.6
Married	35.3	56.8	54.5	45.7	68.9	65.2	38.6	59.4	57.0
<b>Pay Grade</b>									
E1-E3	31.0	15.3	16.9	3.8	4.3	4.2	22.4	12.9	14.0
E4-E6	52.5	65.0	63.7	68.5	62.9	63.8	57.5	64.5	63.7
E7-E9	7.4	8.8	8.7	16.6	20.4	19.8	10.4	11.3	11.2
W1-W5	0.9	2.8	2.6	NA	NA	NA	0.6	2.2	2.0
O1-O3	5.2	5.0	5.0	6.3	4.3	4.7	5.5	4.8	4.9
O4-O10	3.0	3.2	3.1	4.7	8.1	7.6	3.5	4.2	4.2
<b>Total Guard</b>	10.3	89.7	100.0	16.1	83.9	100.0	11.7	88.3	100.0

Note: Table entries are percentages. Standard errors are shown in Table 2BSE in Appendix D.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 2C Sociodemographic Characteristics Among Active-Duty Personnel**

Characteristic	Army			Navy			Marine Corps			Air Force			Total Active-Duty Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>															
White – not Hispanic	43.1	62.6	59.8	56.6	67.1	65.7	57.7	68.8	68.2	65.2	77.4	75.2	54.8	68.4	66.5
Black – not Hispanic	43.1	23.6	26.5	27.3	16.7	18.1	22.6	15.1	15.6	24.1	13.8	15.7	31.6	18.1	20.0
Hispanic	6.8	7.4	7.3	9.4	8.4	8.5	13.6	11.7	11.8	5.1	4.6	4.7	7.2	7.6	7.5
American Indian/ Alaskan Native	1.4	1.1	1.2	0.7	0.8	0.8	1.5	0.8	0.9	0.7	0.3	0.4	1.0	0.8	0.8
Asian/Filipino/ Pacific Islander	4.8	4.4	4.4	3.9	5.6	5.4	2.7	1.5	1.6	4.1	3.4	3.6	4.2	4.1	4.1
Other	0.9	0.9	0.9	2.1	1.5	1.6	1.9	2.0	2.0	0.8	0.4	0.5	1.2	1.1	1.1
<b>Education</b>															
High school or less	23.0	30.2	29.1	33.2	41.4	40.4	40.8	53.3	52.6	20.8	18.9	19.2	25.8	33.6	32.5
Some college	52.8	47.5	48.3	41.8	36.2	36.9	43.0	30.8	31.5	52.6	51.3	51.5	49.4	43.0	43.9
College degree or beyond	24.1	22.3	22.6	21.5	18.1	18.6	11.2	10.9	10.9	26.6	28.7	28.3	23.6	21.2	21.5
<b>Age</b>															
20 or younger	13.7	12.2	12.4	12.6	9.0	9.5	20.0	19.8	19.8	12.6	10.0	10.5	13.4	11.8	12.1
21 to 25 years old	29.9	22.5	23.6	33.9	25.5	26.6	42.5	41.4	41.5	28.8	17.0	19.1	31.2	24.6	25.5
26 to 34 years old	35.8	37.5	37.2	32.5	38.4	37.6	24.5	21.6	21.8	32.2	36.5	35.8	33.2	35.3	35.0
35 or older	20.1	27.5	26.4	20.3	26.5	25.7	12.2	15.8	15.6	26.1	36.0	34.2	21.8	27.7	26.9
<b>Marital Status</b>															
Not married	58.4	39.1	41.9	52.6	36.6	38.7	54.3	52.4	52.5	54.5	29.7	34.2	55.4	37.9	40.4
Married	41.5	60.8	58.0	46.9	62.8	60.7	44.9	47.4	47.3	45.2	69.4	65.0	44.3	61.7	59.2
<b>Pay Grade</b>															
E1-E3	24.2	21.8	22.2	34.7	23.9	25.3	45.4	42.0	42.2	29.2	18.7	20.6	29.7	24.4	25.2
E4-E6	52.6	49.6	50.0	44.7	52.2	51.2	38.9	39.3	39.3	46.5	49.8	49.2	47.8	48.9	48.8
E7-E9	8.2	11.9	11.3	4.8	9.4	8.8	7.0	7.9	7.9	6.4	11.6	10.6	6.7	10.6	10.0
W1-W5	1.8	2.9	2.7	0.2	0.8	0.7	2.6	1.7	1.8	NA	NA	NA	0.8	1.4	1.3
O1-O3	8.5	7.8	7.9	9.7	7.8	8.1	4.6	5.4	5.4	11.5	10.8	11.0	9.6	8.2	8.4
O4-O10	4.7	6.0	5.8	5.8	5.8	5.8	1.5	3.6	3.5	6.3	9.1	8.6	5.4	6.4	6.2
<b>Total Active Duty</b>	14.7	85.3	100.0	13.1	86.9	100.0	5.8	94.2	100.0	18.3	81.7	100.0	14.1	85.9	100.0

Note: Table entries are percentages. Standard errors are shown in Table 2CSE in Appendix D.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

between males and females and across the Active-Duty Services and Reserve/Guard components. These analyses provide information that will help assess the health and readiness of Reserve/Guard personnel, as well as Active-Duty personnel, and thus will help the DoD in its efforts to create a “seamless” Military.

To accomplish these aims, we conducted a series of descriptive cross-tabulations for the variables and measures in the comprehensive dataset by sex and Active-Duty Services or Reserve/Guard components. We assessed significant differences for these data using  $z$  tests. (Refer to Appendix C for more information about assessing significant differences.)

## 2.9 Variability and Suppression of Estimates

The tables presented in the body of this report generally present the estimate of the percentage of the population with the characteristics that define the cell. A necessary companion to these percentages, the standard errors, are provided in Appendix D. The standard errors represent the degree of variation associated with observing a sample rather than observing every member of the population.

Confidence intervals, or ranges that are very likely to include the true population value, can be constructed using standard errors. We can compute the 95% confidence interval by adding to and subtracting from the estimated proportion the result of multiplying 1.96 times the standard error for that cell. The confidence interval range means that, if we were to repeat the study

with 100 samples, the confidence interval would include the true parameter value in 95 of these 100 cases. For a given confidence level (such as 95%), then, the precision with which the cell proportions estimate the true population value varies with the size of the standard error.

In this report, we omitted estimates that were considered unreliable. More specifically, we suppressed estimates that could not be reported with confidence because they were based on small sample sizes ( $n < 30$ ) or had large sampling errors. The rules for classifying estimates as unreliable are explained in Appendix C. Unreliable estimates that were omitted are noted by a \*\* in the tables.

## 2.10 Strengths and Limitations of the Data

Self-reports in which respondents provide data about their behaviors, attitudes, and beliefs rely on respondents' ability and willingness to provide correct information about observations and events. Surveys have been a major vehicle for obtaining self-reported data about a wide variety of topics. A major strength of this study is that it permitted the collection of a rich array of information about the nature and extent of behaviors of interest along with information about correlates of these behaviors. Other strengths include the use of sophisticated sampling techniques and questions from well-researched health scales. The sampling techniques allow for precise estimates of behaviors in specific populations, such as health issues among females, across all

segments of the Military. The well-researched health scales provide valid measures in assessing attitudes and behaviors.

Despite these strengths, survey results also are subject to the potential bias of self-reports and to the ambiguities caused by questions with varying interpretations. Moreover, other potential problems affecting the validity of the survey data include population coverage, response rates, and nonresponse error. If the population is not properly represented in the survey or if response rates are low, biases may be introduced that can invalidate the study results. In addition, combining the Total Force Health Assessment's data with the POWR data could have introduced some error in those instances where the question wording or format on the questionnaires was not identical. Despite a sound study design, the relatively low response rate leaves open the possibility of response bias in the estimates (Groves & Couper, 1998). However, low response rates do not necessarily mean that findings are biased. As noted in Section 2.4, data from the Total Force/POWR comprehensive dataset show comparable smoking rates to those found in the 1998 DoD survey (Bray et al., 1999), suggesting that the comprehensive dataset contains much useful information.

### 3. HEALTH AND HEALTH CARE

Various dimensions of health and health care were assessed, including lifetime prevalence of a wide range of medical conditions, information on visits to health care providers, and measures derived from the Medical Outcome Study (MOS) 36-item Short Form (SF-36) health questionnaire (Ware & Sherbourne, 1992; Ware et al., 1993). Details on scale scoring and other methodology can be found in Chapter 2.

#### 3.1 Perceived Health Status

Perceived health status is presented in Tables 3A and 3B. The following question was used to assess self-reported general health: “In general, would you say your health is...,” with five response choices ranging from “poor” to “excellent.” For the measure of vitality, a subscale of the SF-36 that assesses energy, a high score corresponds to feeling full of pep and energy all the time, and a low score corresponds to feeling tired and worn out all of the time. Results are reported as “high,” “medium,” or “low” relative to the range of responses given.

Nearly half (45.4%) of total Reserve/Guard personnel considered themselves to be in “very good” general health, while nearly three-quarters (71.4%) indicated being in either “excellent” or “very good” general health, the two highest response categories. Significantly more Reserve/Guard males than females reported being in “excellent” health (26.6% of males vs. 22.8% of females),

there were no other significant sex differences across the remaining four response categories.

Among Reserve/Guard personnel, nearly three-quarters (71.6%) scored “high” or “medium” on the vitality scale. Females scored significantly lower than males, however, with a significantly higher percentage of females falling in the “low” vitality category (38.4% of females vs. 26.6% of males). Corresponding to this, fewer females scored in the “high” and “medium” categories: About 31% of females scored in each of the categories “high” and “medium” compared to 37% of males scoring in each of these categories. Female Reserve/Guard personnel scored significantly lower in vitality than males in every component except the Army National Guard, with the most striking disparity seen among Army Reservists, among whom twice as many females fell in the “low” vitality category as did males (41.6% vs. 21.1%).

Results for general health and vitality for Active-Duty personnel were similar to those for Reserve/Guard personnel. Overall, approximately 41% of Active-Duty personnel reported being in “very good” health, with over two-thirds (69.3%) rating their health as “excellent” or “very good.” As seen among the Reserve/Guard, significantly more males than females in the total Active-Duty force reported being in “excellent” general health (29.1% of males vs. 21.0% of females). This sex difference held

**Table 3A Perceived Health Status Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>General Health</b>								
<b>Females</b>								
Excellent	18.8*	22.4	29.2	32.6*	24.8	26.0	22.8*	
Very good	41.4	54.3	43.8	44.6	46.6	49.2	46.9	
Good	32.4	21.7	23.4	20.1	26.3	21.1	26.1	
Fair	5.4	0.6*	3.5*	2.3	2.2	3.1	3.2	
Poor	2.0	0.9	0.1	0.4	0.1	0.6	1.1	
<b>Males</b>								
Excellent	27.1*	23.7	32.0	42.4*	26.7	25.2	26.6*	
Very good	44.1	43.9	44.6	41.6	50.8	49.5	45.1	
Good	25.0	28.4	22.6	14.2	19.0	23.4	25.1	
Fair	3.4	3.4*	0.8*	1.3	2.3	1.5	2.7	
Poor	0.5	0.6	0.1	0.5	1.1	0.4	0.5	
<b>Total</b>								
Excellent	25.0	23.6	31.5	42.0	26.3	25.3	26.0	
Very good	43.4	45.0	44.4	41.8	50.0	49.5	45.4	
Good	26.8	27.7	22.7	14.4	20.6	23.1	25.2	
Fair	3.9	3.1	1.3	1.4	2.3	1.8	2.8	
Poor	0.9	0.6	0.1	0.5	0.9	0.4	0.6	
<b>Vitality<sup>a</sup></b>								
<b>Females</b>								
High	26.9*	33.5	36.1	30.9	31.8	32.1	31.1*	
Medium	31.5	32.1	26.9*	33.2	26.5	31.1	30.5*	
Low	41.6*	34.4	37.0*	35.9*	41.7*	36.8*	38.4*	
<b>Males</b>								
High	40.3*	34.1	38.8	36.5	40.0	37.7	36.8*	
Medium	38.7	36.8	35.0*	37.6	34.3	34.7	36.6*	
Low	21.1*	29.1	26.2*	26.0*	25.7*	27.6*	26.6*	
<b>Total</b>								
High	37.0	34.0	38.3	36.2	38.3	36.8	35.9	
Medium	36.9	36.3	33.5	37.4	32.7	34.1	35.7	
Low	26.1	29.7	28.2	26.4	29.0	29.0	28.4	

Note: Table entries are column percentages. Standard errors are shown in Table 3ASE in Appendix D.

\*Sex differences are significant at  $p<.05$ .<sup>a</sup>Vitality is a summary measure of energy and fatigue.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 3B Perceived Health Status Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>General Health</b>					
<b>Females</b>					
Excellent	16.1*	25.8*	28.0*	21.4	21.0*
Very good	44.9	40.9	39.0	42.6	42.8
Good	32.1	27.7	25.0	30.0	29.9*
Fair	6.0	5.2*	6.3	5.7	5.7
Poor	1.0	0.4	1.8	0.2	0.6
<b>Males</b>					
Excellent	27.7*	30.6*	39.5*	23.5	29.1*
Very good	40.4	40.9	34.7	46.2	41.2
Good	25.9	25.2	20.0	27.4	25.3*
Fair	5.6	3.0*	4.4	2.8	4.0
Poor	0.3	0.3	1.5	**	0.4
<b>Total</b>					
Excellent	26.0	30.0	38.8	23.1	27.9
Very good	41.1	40.9	34.9	45.6	41.4
Good	26.8	25.5	20.3	27.9	25.9
Fair	5.7	3.3	4.5	3.3	4.3
Poor	0.4	0.3	1.5	0.1	0.4
<b>Vitality<sup>a</sup></b>					
<b>Females</b>					
High	20.2*	25.2*	20.8*	23.8*	22.7*
Medium	27.3	30.1	25.1	36.9	31.2
Low	52.5*	44.7*	54.1*	39.2	46.1*
<b>Males</b>					
High	30.1*	33.8*	32.4*	31.5*	31.8*
Medium	32.4	32.7	30.2	34.6	32.7
Low	37.5*	33.6*	37.5*	33.9	35.5*
<b>Total</b>					
High	28.7	32.6	31.7	30.1	30.5
Medium	31.6	32.3	29.9	35.0	32.5
Low	39.7	35.0	38.5	34.9	37.0

Note: Table entries are column percentages. Standard errors are shown in Table 3BSE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .

\*\*Low precision.

<sup>a</sup>Vitality is a summary measure of energy and fatigue.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

for each Service except the Air Force, in which there was no significant sex difference.

Female Active-Duty personnel were more likely than males to score in the “low” category for vitality (46.1% of females vs. 35.5% of males), again similar to the results for total Reserve/Guard personnel. For all Active-Duty Services but the Air Force, more females had “low” vitality; most strikingly, over half of Active-Duty Army and Marine Corps females had “low” vitality (52.5% and 54.1%, respectively), which was 15 percentage points or more higher than the corresponding figures for males. Notably, a greater percentage of total Active-Duty personnel scored “low” on the vitality scale than did Reserve/Guard personnel (37.0% vs. 28.4%).

### 3.2 Perceived Role Limitations

Tables 4A and 4B show self-reported role limitations due to physical and emotional causes, scores for which also are derived from the SF-36 health questionnaire. As reported, the “high” groups on the role limitations subscales include personnel who have problems with work or other daily activities as a result of physical health or emotional problems, and the “low” groups are personnel with fewer of these problems.

Among Reserve/Guard personnel, about 16% scored “high” on the scale for role limitations due to physical reasons. A significant sex difference was observed, with about 22% of females compared to 15% of males indicating that they had high role

limitations due to physical reasons. Of note, among Army and Marine Corps Reservists, nearly twice as many females as males scored “high” on this scale (28.6% vs. 14.6% in the Army Reserve; 23.3% vs. 12.9% in the Marine Corps Reserve). Role limitations due to emotional problems were slightly less common than those due to physical problems, but the responses exhibited the same patterns. Among Reserve/Guard personnel, about 14% scored “high” on the emotional role limitations scale; separated by sex, the figures were 17% of females and 13% of males, a statistically significant difference. Only about 8% of male Air National Guard personnel reported role limitations due to emotional problems. However, over twice as many females in the Air National Guard (19.2%) reported a great deal of role limitations due to emotional reasons.

Role limitations due to physical and emotional reasons were slightly more prevalent among total Active-Duty personnel: Approximately 22% scored “high” for role limitations due to physical problems, and 18% scored “high” for role limitations due to emotional problems. For the total Active-Duty population and for many of the individual Active-Duty Services, significant sex differences again were observed for role limitations due to physical problems and role limitations due to emotional problems. Among Active-Duty personnel, about 30% of females compared to 21% of males had role limitations due to physical problems, which was a significant difference. Similarly, for role limitations due to emotional problems, significantly more Active-Duty females than males (22.3% vs. 16.7%) fell into the “high” category. The disparities between sexes in each Active-Duty Service were not as

**Table 4A** Perceived Role Limitations Among Reserve/Guard Personnel

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Reserve/Guard Personnel	Total
<b>Role Limitations Due to Physical Health Problems</b>								
Females								
High	28.6*	19.9	18.7*	23.3*	14.8	14.9	21.6*	
Low	71.4*	80.1	81.3*	76.7*	85.2	85.1	78.4*	
Males								
High	14.6*	16.2	11.6*	12.9*	15.0	10.6	14.5*	
Low	85.4*	83.8	88.4*	87.1*	85.0	89.4	85.5*	
<b>Total</b>								
High	18.1	16.5	12.9	13.3	14.9	11.3	15.6	
Low	81.9	83.5	87.1	86.7	85.1	88.7	84.4	
<b>Role Limitations Due to Emotional Health Problems</b>								
Females								
High	19.3*	16.3	12.6	20.3	13.7	19.2*	17.1*	
Low	80.7*	83.7	87.4	79.7	86.3	80.8*	82.9*	
Males								
High	12.1*	15.2	11.1	14.7	12.9	7.8*	13.1*	
Low	87.9*	84.8	88.9	85.3	87.1	92.2*	86.9*	
<b>Total</b>								
High	13.9	15.3	11.4	15.0	13.1	9.7	13.7	
Low	86.1	84.7	88.6	85.0	86.9	90.3	86.3	

Note: Table entries are column percentages. Standard errors are shown in Table 4ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 4B Perceived Role Limitations Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Role Limitations Due to Physical Health Problems</b>					
<b>Females</b>					
High	34.5*	32.3*	43.9*	21.1*	29.9*
Low	65.5*	67.7*	56.1*	78.9*	70.1*
<b>Males</b>					
High	23.2*	22.0*	24.6*	14.3*	20.9*
Low	76.8*	78.0*	75.4*	85.7*	79.1*
<b>Total</b>					
High	24.9	23.3	25.8	15.5	22.1
Low	75.1	76.7	74.2	84.5	77.9
<b>Role Limitations Due to Emotional Health Problems</b>					
<b>Females</b>					
High	26.3*	20.5*	27.2*	18.8	22.3*
Low	73.7*	79.5*	72.8*	81.2	77.7*
<b>Males</b>					
High	18.9*	15.9*	18.9*	13.5	16.7*
Low	81.1*	84.1*	81.1*	86.5	83.3*
<b>Total</b>					
High	20.0	16.5	19.4	14.5	17.5
Low	80.0	83.5	80.6	85.5	82.5

Note: Table entries are column percentages. Standard errors are shown in Table 4BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

large as for role limitations due to physical problems, but they were still significant for Navy, Army, and Marine Corps personnel, ranging from a difference of about 5 to 8 percentage points.

### **3.3 Lifetime Prevalence of Selected Diseases and Medical Conditions**

Tables 5A and 5B through 10A and 10B present the self-reported lifetime prevalence of numerous specific conditions and diseases, grouped by category or affected bodily system. This information was ascertained by asking, "Has a health care provider ever told you that you had any of the following?" Reported here are instances of diseases that were current at the time of the survey as well as those that were problems in the past. The statistical significance of sex differences in disease prevalence was not tested because many diseases affect females and males differently. Instead, results are discussed separately for females and males.

#### **3.3.1 Respiratory or Skeletal Conditions and Allergic or Infectious Diseases**

A number of conditions and diseases were assessed in Tables 5A and 5B. Lifetime prevalence data are shown for asthma and chronic bronchitis, two common respiratory conditions; one skeletal condition, arthritis; allergic conditions, such as chronic rhinitis or hay fever and other allergies; and two infectious diseases, tuberculosis and hepatitis. Among the Reserve/Guard, the two most prevalent conditions were allergic in nature, with about 31% of female and 20% of male personnel affected by

allergies other than chronic rhinitis or hay fever and 15% of females and 9% of males affected by chronic rhinitis or hay fever at some point in time. Overall, 22% of total Reserve/Guard personnel reported allergies other than chronic rhinitis, and about 10% reported chronic rhinitis. Arthritis was the next most common of these conditions, reported by about 8% of

Reserve/Guard personnel. The two respiratory conditions surveyed, asthma and chronic bronchitis, showed lifetime prevalence rates of approximately 10% and 12%, respectively, among female Reserve/Guard personnel and 6% and 4%, respectively, among their male counterparts. The infectious diseases were the least common, with a lifetime prevalence of a positive tuberculosis test at approximately 8% for females and 5% for males, and a lifetime prevalence of 3% overall for hepatitis. Marine Corps Reservists, both female and male, stand out as reporting the lowest lifetime prevalence for many of the respiratory, skeletal, allergic, and infectious conditions surveyed.

#### *As seen among Reserve/Guard personnel, the most*

*prevalent of the respiratory, skeletal, allergic, and infectious conditions among Active-Duty personnel were allergies (other than chronic rhinitis or hay fever), affecting about 27% of female and 16% of male Active-Duty personnel in their lifetime. Chronic rhinitis or hay fever was the second most commonly reported of these conditions, with about 9% of all Active-Duty personnel affected. A positive tuberculosis test and asthma, each with a prevalence of about 6%, tied for the third most common of all respiratory, skeletal, allergic, and infectious conditions among Active-Duty personnel. Moreover, ever having a positive test for*

**Table 5A Lifetime Prevalence of Respiratory or Skeletal Conditions and Allergic or Infectious Diseases Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Reserve/Guard Personnel
<b>Asthma</b>							
Females	12.1	12.6	8.4	8.3	6.0	6.6	10.4
Males	6.0	5.5	7.9	6.1	6.7	6.9	6.1
Total	7.5	6.3	8.0	6.2	6.5	6.8	6.8
<b>Chronic Bronchitis</b>							
Females	13.9	10.7	8.8	8.4	12.9	11.0	11.9
Males	4.8	4.3	4.9	4.3	2.1	4.6	4.3
Total	7.0	4.9	5.6	4.5	4.3	5.6	5.5
<b>Arthritis</b>							
Females	12.9	8.7	9.4	3.9	8.1	10.5	10.3
Males	8.2	8.9	6.2	3.1	9.5	5.2	7.8
Total	9.3	8.9	6.8	3.1	9.2	6.1	8.2
<b>Chronic Rhinitis or Hay Fever</b>							
Females	16.7	9.4	16.1	9.8	20.9	14.4	14.7
Males	8.7	7.6	12.4	6.0	17.2	10.0	9.2
Total	10.6	7.8	13.1	6.1	17.9	10.7	10.1
<b>Other Allergies</b>							
Females	30.6	27.2	32.2	24.0	37.7	35.6	31.2
Males	22.5	18.4	22.5	16.8	24.4	21.0	20.3
Total	24.5	19.3	24.3	17.1	27.2	23.3	22.0
<b>Positive Test for Tuberculosis</b>							
Females	12.0	1.8	8.1	5.5	10.4	5.3	7.6
Males	6.6	2.9	6.5	5.7	8.5	3.5	4.6
Total	7.9	2.8	6.8	5.7	8.9	3.8	5.1
<b>Hepatitis</b>							
Females	2.2	2.2	2.8	1.3	2.1	3.0	2.3
Males	3.8	2.3	2.1	1.7	1.1	3.0	2.5
Total	3.4	2.3	2.2	1.7	1.3	3.0	2.5

Note: Table entries are percentages. Standard errors are shown in Table 5ASE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 5B Lifetime Prevalence of Respiratory or Skeletal Conditions and Allergic or Infectious Diseases Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Asthma</b>					
Females	11.7	6.9	7.7	4.9	8.0
Males	7.1	5.3	6.5	5.6	6.1
Total	7.8	5.5	6.6	5.5	6.4
<b>Chronic Bronchitis</b>					
Females	11.9	7.4	8.1	2.5	7.4
Males	6.7	3.4	4.4	3.8	4.8
Total	7.5	3.9	4.6	3.6	5.2
<b>Arthritis</b>					
Females	10.4	4.9	4.2	4.3	6.6
Males	7.5	4.0	2.2	6.7	5.6
Total	7.9	4.1	2.3	6.3	5.8
<b>Chronic Rhinitis or Hay Fever</b>					
Females	10.7	10.1	5.9	12.4	10.9
Males	8.6	8.6	6.2	9.6	8.5
Total	8.9	8.8	6.1	10.1	8.8
<b>Other Allergies</b>					
Females	25.3	23.5	22.0	30.8	26.5
Males	17.6	13.9	13.0	19.0	16.3
Total	18.7	15.1	13.5	21.1	17.7
<b>Positive Test for Tuberculosis</b>					
Females	10.0	5.0	4.4	8.8	8.0
Males	7.5	6.7	2.8	5.6	6.2
Total	7.9	6.4	2.9	6.2	6.4
<b>Hepatitis</b>					
Females	4.0	2.5	2.8	1.5	2.7
Males	1.8	2.4	1.4	1.6	1.9
Total	2.1	2.4	2.4	1.5	2.0

Note: Table entries are percentages. Standard errors are shown in Table 5BSE in Appendix D.

Source: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

tuberculosis was slightly more common for the Active-Duty force. About 6% of Active-Duty personnel had a lifetime prevalence of arthritis. Lifetime prevalence of chronic bronchitis and hepatitis for all Active-Duty personnel was comparable to that reported by Reserve/Guard personnel. Moreover, these conditions were the least common among Active-Duty personnel.

Although allergic conditions were the most widely reported of the respiratory, skeletal, allergic, and infectious conditions among military personnel, lifetime prevalence was slightly lower among Active-Duty than among Reserve/Guard personnel overall and when analyzed by sex. Active-Duty personnel also were less likely to report ever having arthritis, both overall and by sex. The lifetime prevalence of a positive tuberculosis test was comparable for total Active-Duty and Reserve/Guard personnel (6.4% and 5.1%, respectively).

Active-Duty females reported lower lifetime prevalence rates than did Reserve/Guard females for asthma, chronic bronchitis, arthritis, chronic rhinitis or hay fever, and other allergies. Marine Corps Reservists reported especially low lifetime prevalence rates compared to other Reserve/Guard components for arthritis and hepatitis. Similarly, Active-Duty Marine Corps personnel reported especially low rates of chronic rhinitis or hay fever as well as of ever having had a positive tuberculosis test.

### 3.3.2 Cancer

As shown in Tables 6A and 6B, personnel were asked about lifetime prevalence of cervical, breast, skin, and other cancers. Among Reserve/Guard females, lifetime prevalence of cervical cancer was about 3%, although prevalence ranged widely by Reserve/Guard component, from less than 1% for the Air

National Guard to about 5% in the Army National Guard. Skin cancer was the second most common cancer type, reported by about 2% of Reserve/Guard personnel. Overall breast cancer lifetime prevalence rates were about 1% for all females in the Reserve/Guard, but varied widely among females in the different Reserve/Guard components (from 0.2% for the Naval Reserve to 1.4% for the Army Reserve). “Other cancer” was even less common, with a lifetime prevalence rate of less than 1% overall.

Lifetime prevalence of cervical cancer was about 3% for the total Active-Duty, ranging greatly among the Active-Duty Services (from 1.2% among Air Force females to 4.6% in Marine Corps females). Skin cancer and other cancer showed comparable lifetime prevalence figures of below 1% in the overall Active-Duty force. Breast cancer was the least commonly reported of all cancer types among Active-Duty females, with an overall prevalence of 0.3%.

For all military personnel, cervical cancer had the highest occurrence of all cancer types and was the most common cancer among females. Among males, skin cancer was the most common

**Table 6A Lifetime Prevalence of Cancer Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Cervical Cancer</b>								
Females	1.6	4.5	4.3	1.6	0.9	0.6	0.6	2.5
<b>Breast Cancer</b>								
Females	1.4	1.0	0.2	**	0.3	0.4	0.4	0.9
<b>Skin Cancer</b>								
Females	1.5	1.2	1.0	1.5	2.0	0.7	0.7	1.3
Males	0.7	2.0	2.5	0.4	2.9	2.1	2.1	1.8
Total	0.9	1.9	2.2	0.4	2.7	1.9	1.9	1.7
<b>Other Cancer</b>								
Females	1.4	**	0.7	**	0.6	0.1	0.1	0.7
Males	0.3	0.6	0.2	0.4	0.5	0.8	0.5	0.5
Total	0.5	0.6	0.3	0.4	0.5	0.7	0.7	0.5

Note: Table entries are percentages. Standard errors are shown in Table 6ASE in Appendix D.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 6B Lifetime Prevalence of Cancer Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Cervical Cancer</b>					
Females	4.5	2.4	4.6	1.2	2.9
<b>Breast Cancer</b>					
Females	0.6	0.3	0.1	0.2	0.3
<b>Skin Cancer</b>					
Females	0.4	0.8	1.2	0.4	0.5
Males	1.3	0.8	0.4	1.2	1.0
Total	1.1	0.8	0.4	1.0	0.9
<b>Other Cancer</b>					
Females	0.6	0.4	0.3	0.1	0.4
Males	0.9	0.3	0.7	1.3	0.8
Total	0.9	0.3	0.7	1.1	0.8

Note: Table entries are percentages. Standard errors are shown in Table 6BSE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

(1.8% lifetime prevalence among all Reserve/Guard and 1.0% among Active-Duty personnel).

### 3.3.3 Cardiovascular and Endocrine Conditions

Data on lifetime prevalence of cardiovascular and endocrine conditions are shown in Tables 7A and 7B. Heart disease or angina, high blood pressure, and high cholesterol were the cardiovascular conditions assessed, along with two endocrine conditions, thyroid disease and diabetes.

As shown in Table 7A, high cholesterol and high blood pressure were the most prevalent of the cardiovascular conditions among Reserve/Guard personnel, with about 17% of personnel reporting high cholesterol and 12% reporting high blood pressure. Examining these data separately by sex showed about 15% of females and 17% of males reporting a diagnosis of high cholesterol at some time, and 9% of females and 12% of males reporting having had a diagnosis of high blood pressure. Marine Corps Reservists had especially low prevalences of both high cholesterol and high blood pressure, both overall and by sex. For high cholesterol, about 6% of all Marine Corps Reservists reported ever being diagnosed compared to 17% of total Reserve/Guard personnel. Similarly, about 5% of all Marine Corps Reservists compared to 12% of total Reserve/Guard personnel reported ever being told they had high blood pressure. Heart disease or angina showed an overall lifetime prevalence of about 1% among total Reserve/Guard personnel. The overall lifetime prevalence of thyroid disease was about 1% (about 3% for females and less than

1% for males) and less than 1% of the total Reserve/Guard force reported a diagnosis of diabetes.

High cholesterol and high blood pressure were again the most prevalent cardiovascular conditions among Active-Duty personnel. However, estimates were lower among Active-Duty personnel than among Reserve/Guard personnel. Among Active-Duty personnel, high cholesterol was reported by about 10% of females and 13% of males, and high blood pressure was reported by about 7% of females and 9% of males. Overall, about 13% of Active-Duty personnel reported high cholesterol and 9% reported high blood pressure. Similar to the patterns seen across Reserve/Guard components, Active-Duty Marine Corps personnel were less likely to ever have been diagnosed with either of these two cardiovascular conditions. Although personnel in other Active-Duty Services reported prevalence rates ranging from approximately 11% to 15% for high cholesterol and from 8% to 11% for high blood pressure, the corresponding figures for the total Marine Corps were 5% for high cholesterol and 4% for high blood pressure. Heart disease or angina were much less common, with a reported lifetime prevalence of about 1% among total Active-Duty personnel, although a wide range of estimates was seen across the Active-Duty Services. Similar to estimates for the Reserve/Guard, thyroid disease was reported by about 3% of Active-Duty females and less than 1% of Active-Duty males, but prevalence varied across the Active-Duty Services. Overall, about 1% of Active-Duty personnel reported this condition. Lifetime prevalence of diabetes was less than 1% with about 2% of females and under 1% of males reporting this disease.

**Table 7A Lifetime Prevalence of Cardiovascular and Endocrine Conditions Among Reserve/Guard Personnel**

System/Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Cardiovascular</b>								
<b>Heart Disease or Angina</b>								
Females	1.3	1.7	3.4	0.8	0.3	1.5	1.5	
Males	0.9	1.8	0.8	0.4	1.0	0.6	1.2	
Total	1.0	1.8	1.3	0.4	0.9	0.8	1.3	
<b>High Blood Pressure</b>								
Females	10.3	9.3	8.5	4.8	8.7	4.8	8.8	
Males	12.8	13.1	12.9	4.9	14.1	11.2	12.4	
Total	12.2	12.7	12.1	4.9	12.9	10.1	11.9	
<b>High Cholesterol</b>								
Females	13.2	15.3	19.1	7.8	14.6	16.3	14.9	
Males	15.3	17.0	20.9	5.8	23.6	20.5	17.3	
Total	14.8	16.8	20.5	5.8	21.7	19.8	16.9	
<b>Endocrine</b>								
<b>Thyroid Disease</b>								
Females	4.7	0.6	4.7	3.8	3.7	3.9	3.3	
Males	0.9	0.5	0.8	0.1	1.0	0.7	0.6	
Total	1.8	0.5	1.5	0.3	1.5	1.2	1.1	
<b>Diabetes</b>								
Females	1.4	0.4	0.7	2.5	0.5	1.6	1.0	
Males	1.1	0.9	1.0	**	0.6	0.2	0.8	
Total	1.2	0.8	0.9	0.1	0.6	0.4	0.8	

Note: Table entries are percentages. Standard errors are shown in Table 7ASE in Appendix D.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 7B Lifetime Prevalence of Cardiovascular and Endocrine Conditions Among Active-Duty Personnel**

System/Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Cardiovascular</b>					
<b>Heart Disease or Angina</b>					
Females	1.7	0.3	**	0.8	0.9
Males	1.4	0.3	**	1.6	1.0
Total	1.4	0.3	**	1.5	1.0
<b>High Blood Pressure</b>					
Females	10.4	5.6	3.2	5.8	7.2
Males	10.8	7.9	4.2	11.8	9.4
Total	10.7	7.6	4.2	10.7	9.1
<b>High Cholesterol</b>					
Females	13.0	6.5	5.1	10.8	10.2
Males	15.0	11.7	4.8	16.4	13.1
Total	14.7	11.1	4.8	15.4	12.7
<b>Endocrine</b>					
<b>Thyroid Disease</b>					
Females	2.9	2.4	1.0	2.5	2.5
Males	0.5	0.2	0.8	1.9	0.8
Total	0.8	0.5	0.8	2.0	1.0
<b>Diabetes</b>					
Females	1.7	1.2	1.3	2.8	1.9
Males	0.4	0.3	0.1	0.2	0.3
Total	0.6	0.4	0.1	0.7	0.5

Note: Table entries are percentages. Standard errors are shown in Table 7BSE in Appendix D.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

### 3.3.4 Gastrointestinal and Gallbladder Disorders

Lifetime prevalence of hernia or rupture, hemorrhoids, ulcer, bowel or intestinal trouble, and gallstones appear in Tables 8A and 8B. For total Reserve/Guard personnel, the most commonly reported gastrointestinal conditions were hemorrhoids (15.1%) and hernia or rupture (11.1%). Rates for females in different Reserve/Guard components ranged from about 15% to 25% for hemorrhoids; among males the range was from 6% to 20%. Hernia or rupture rates ranged from about 1% to 5% for females across Reserve/Guard components and from 11% to 13% for males. Overall occurrence of ulcer and bowel or intestinal trouble was lower than the other gastrointestinal conditions among the total Reserve/Guard, with approximately 7% of personnel indicating an ulcer and 5% indicating bowel or intestinal trouble. Prevalence estimates were comparable for females for an ulcer and bowel or intestinal trouble. The estimates among males, however, differed slightly for these two conditions (6.4% for ulcer and 4.7% for bowel or intestinal trouble). Gallstones were the least prevalent disorder, with a total lifetime prevalence of about 1%, ranging from less than 1% to 2% across Reserve/Guard components. Female and male Marine Corps Reservists reported lifetime prevalence rates of ulcers and gallstones that were notably lower than the rates reported by other Reserve/Guard personnel.

Similar patterns were seen among Active-Duty personnel for the gastrointestinal and gallbladder disorders as for Reserve/Guard personnel; however, lifetime prevalence of these disorders was higher among Reserve/Guard personnel overall.

Among Active-Duty personnel, the most commonly reported condition was hemorrhoids (10.9% overall). Occurrence of an ulcer was reported by about 4% of Active-Duty personnel.

Lifetime prevalence of gallstones was under 1% overall and had a wider range for Active-Duty females (from 0.7% to 3.5%) than for males (from 0.1% to 0.7%). Gallstone occurrence also was much lower among Marine Corps personnel than among members of other Active-Duty Services.

### 3.3.5 Urinary Tract Conditions

Tables 9A and 9B present the lifetime prevalence of urinary tract infection (UTI), repeated kidney infections, and kidney stones. About 15% of all personnel reported UTIs, while fewer reported kidney stones (4.2%) or repeated kidney infections (1.3%). Roughly half (44.5%) of all females in the Reserve/Guard had ever had a UTI, ranging from about 39% in the Marine Corps Reserve to 53% of Air Force Reservists. For males, approximately 9% of Reserve/Guard personnel reported ever having a UTI, ranging from a low of 4% among Marine Corps Reservists to a high of 11% among Air Force Reservists. Repeated kidney infections and kidney stones were less common than UTIs, but they varied across Reserve/Guard components. Overall, approximately 5% of female and less than 1% of male Reserve/Guard personnel reported having repeated kidney infections, while 2% of females and 5% of males reported ever having kidney stones.

Very similar lifetime prevalence rates for all three urinary tract conditions were observed among Active-Duty personnel.

**Table 8A Lifetime Prevalence of Gastrointestinal and Gallbladder Disorders Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Hernia or Rupture</b>								
Females	3.4	5.1	3.4	3.8	0.8	2.8	3.5	
Males	12.2	13.3	10.9	11.0	11.5	12.7	12.5	
Total	10.0	12.5	9.5	10.6	9.2	11.1	11.1	
<b>Hemorrhoids</b>								
Females	15.2	21.3	24.5	16.3	24.0	23.4	20.0	
Males	16.2	12.5	14.7	6.3	19.9	16.2	14.2	
Total	16.0	13.5	16.6	6.7	20.8	17.4	15.1	
<b>Ulcer</b>								
Females	8.4	8.9	6.9	4.1	6.8	10.6	8.4	
Males	5.5	7.2	5.4	3.3	8.7	5.4	6.4	
Total	6.2	7.4	5.7	3.3	8.3	6.2	6.7	
<b>Bowel or Intestinal Trouble</b>								
Females	5.3	6.3	8.0	6.5	14.1	14.1	8.0	
Males	3.1	5.6	2.3	2.9	6.6	5.4	4.7	
Total	3.7	5.7	3.4	3.0	8.1	6.8	5.2	
<b>Gallstones</b>								
Females	4.2	1.8	5.3	1.0	4.4	5.1	3.7	
Males	0.5	1.2	0.3	0.1	1.4	1.3	1.0	
Total	1.4	1.3	1.3	0.2	2.0	1.9	1.4	

Note: Table entries are percentages. Standard errors are shown in Table 8ASE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 8B Lifetime Prevalence of Gastrointestinal and Gallbladder Disorders Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Hernia or Rupture</b>					
Females	3.9	2.4	2.6	6.2	4.2
Males	8.5	8.1	8.2	11.9	9.2
Total	7.8	7.4	7.8	10.9	8.5
<b>Hemorrhoids</b>					
Females	15.1	13.0	9.7	16.4	14.8
Males	9.6	9.7	7.6	13.1	10.2
Total	10.4	10.1	7.7	13.7	10.9
<b>Ulcer</b>					
Females	7.4	4.3	2.8	2.9	4.8
Males	3.6	3.3	2.8	7.1	4.3
Total	4.2	3.4	2.8	6.3	4.3
<b>Bowel or Intestinal Trouble</b>					
Females	8.6	5.6	6.3	10.6	8.4
Males	3.0	2.8	1.0	4.2	3.0
Total	3.8	3.1	1.3	5.3	3.7
<b>Gallstones</b>					
Females	2.8	1.5	0.7	3.5	2.6
Males	0.4	0.7	0.1	0.2	0.4
Total	0.8	0.8	0.2	0.8	0.7

Note: Table entries are percentages. Standard errors are shown in Table 8BSE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 9A Lifetime Prevalence of Urinary Tract Conditions Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Urinary Tract Infection</b>								
Females	45.0	39.5	44.6	38.6	52.5	47.2	44.5	
Males	8.6	9.0	10.3	3.8	10.8	9.6	9.0	
Total	17.6	12.2	16.8	5.3	19.5	15.7	14.6	
<b>Repeated Kidney Infections</b>								
Females	5.7	5.3	4.4	2.5	4.6	3.7	5.0	
Males	0.3	1.0	0.8	0.4	0.3	0.5	0.7	
Total	1.6	1.4	1.4	0.5	1.2	1.0	1.3	
<b>Kidney Stones</b>								
Females	2.2	0.3	3.9	1.0	0.8	3.5	1.9	
Males	5.5	4.5	2.9	1.7	8.3	4.5	4.7	
Total	4.7	4.0	3.0	1.6	6.7	4.4	4.2	

Note: Table entries are percentages. Standard errors are shown in Table 9ASE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 9B Lifetime Prevalence of Urinary Tract Conditions Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Urinary Tract Infection</b>					
Females	48.6	44.8	46.0	44.1	46.0
Males	8.4	9.3	6.6	7.4	8.1
Total	14.3	14.0	8.9	14.1	13.5
<b>Repeated Kidney Infections</b>					
Females	3.9	4.6	5.7	3.5	4.1
Males	1.1	0.5	0.6	0.3	0.7
Total	1.5	1.1	1.1	0.9	1.1
<b>Kidney Stones</b>					
Females	2.9	1.5	0.6	3.0	2.4
Males	2.5	3.0	2.0	1.9	2.4
Total	2.5	2.8	1.9	2.1	2.4

Note: Table entries are percentages. Standard errors are shown in Table 9BSE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

UTIs were reported by about 14% of all personnel, while kidney stones were reported by 2% and repeated kidney infections by 1%. Nearly half (46.0%) of Active-Duty females reported ever having a UTI, ranging from about 44% in the Air Force to 49% in the Army. For males, about 8% overall ever had a UTI, ranging from 7% in the Marine Corps to 9% in the Navy. Repeated kidney infections also were more common among Active-Duty females than males.

Approximately 4% of total Active-Duty females reported repeated kidney infections, as did 1% of Active-Duty males. Lifetime prevalence of kidney stones was about 2% for all Active-Duty personnel, regardless of sex.

### **3.3.6 Reproductive System Disorders**

Lifetime diagnoses of sexually transmitted diseases (STDs), pelvic inflammatory disease (PID), and sterility/infertility are reported in Tables 10A and 10B. Overall, about 5% of Reserve/Guard personnel reported they had had herpes or genital warts and 7% reported other STDs. Reserve/Guard females reported similar overall lifetime prevalence rates for herpes or genital warts and other STDs, while for males herpes or genital warts were less common than other STDs. PID was reported by about 7% of all Reserve/Guard females, and estimates ranged from a low of 4% among female Marine Corps Reservists to a high of 9% among females in the Army Reserve. Sterility/infertility was reported by about 3% of all Reserve/Guard females. Although in most Reserve/Guard components the estimates for sterility/infertility ranged from approximately 2% to 4%, Naval Reserve females reported a lifetime prevalence of 7%.

Sterility/infertility was reported by about 1% of total males in the Reserve/Guard; this ranged from 1% to 2% across all Reserve/Guard components except the Marine Corps Reserve, where lifetime prevalence of sterility/infertility was quite low (0.3%). In the Reserve/Guard, the overall prevalence of sterility/infertility was about 2%.

Among Active-Duty personnel, estimates for herpes or genital warts (5.5%) were comparable to those for the Reserve/Guard, while the percentage of personnel reporting other STDs was slightly higher than the percentage in the Reserve/Guard population (10.0%). For Active-Duty females, the lifetime prevalence of herpes or genital warts or other STDs ranged from about 9% to 19% across the Active-Duty Services. For Active-Duty males, herpes or genital warts were less common than other STDs, with a reported lifetime prevalence of about 3% to 5% (for herpes or genital warts) and 6% to 11% (for other STDs) across the Active-Duty Services. Lifetime prevalence of PID among all Active-Duty females was about 6%. Sterility/infertility was reported by about 2% to 3% of Active-Duty females and 1% of all Active-Duty males. These estimates were similar to those for the Reserve/Guard. Overall, sterility/infertility was reported by about 1% of Active-Duty personnel.

## **3.4 Number of Self-Reported Lifetime Medical Conditions**

A summary of the number of the medical conditions surveyed in Tables 5A/B to 10A/B is shown in Tables 11A and

**Table 10A Lifetime Prevalence of Reproductive System Disorders Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Herpes or Genital Warts</b>								
Females	8.2	9.1	14.6	11.1	15.9	11.6	10.5	
Males	5.2	3.6	6.4	3.3	5.9	4.4	4.4	
Total	5.9	4.2	7.9	3.7	7.9	5.6	5.4	
<b>Other Sexually Transmitted Diseases</b>								
Females	15.1	9.5	6.0	9.4	12.2	5.9	10.9	
Males	8.1	4.7	8.4	5.3	5.7	7.3	6.2	
Total	9.8	5.2	7.9	5.5	7.1	7.0	6.9	
<b>Pelvic Inflammatory Disease</b>								
Females	9.1	5.5	7.8	3.7	5.7	5.8	7.1	
<b>Sterility/Infertility</b>								
Females	3.0	1.9	6.6	3.3	3.2	3.5	3.2	
Males	1.3	1.4	1.8	0.3	2.0	1.4	1.4	
Total	1.7	1.5	2.7	0.4	2.2	1.7	1.7	

Note: Table entries are percentages. Standard errors are shown in Table 10ASE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 10B Lifetime Prevalence of Reproductive System Disorders Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Herpes or Genital Warts</b>					
Females	12.1	10.4	11.6	14.4	12.5
Males	3.3	5.4	3.8	5.3	4.4
Total	4.6	6.0	4.3	6.9	5.5
<b>Other Sexually Transmitted Diseases</b>					
Females	18.8	16.1	15.0	9.0	14.6
Males	10.0	11.2	8.4	6.3	9.2
Total	11.3	11.9	8.8	6.8	10.0
<b>Pelvic Inflammatory Disease</b>					
Females	6.4	5.3	5.6	6.5	6.1
<b>Sterility/Infertility</b>					
Females	2.1	3.3	2.7	2.4	2.5
Males	1.0	1.2	1.0	1.2	1.1
Total	1.2	1.5	1.1	1.4	1.3

Note: Table entries are percentages. Standard errors are shown in Table 10BSE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

11B. Overall, approximately 68% of Reserve/Guard personnel and 63% of Active-Duty personnel reported ever having had any of the 28 conditions asked about in the questionnaires. When considered by sex, about 80% to 82% of females overall and 60% to 65% of males overall reported ever having been diagnosed with 1 or more of the 28 reported medical conditions. Active-Duty personnel were slightly more likely to be free of any of the reported medical conditions than Reserve/Guard personnel (36.9% of the overall Active-Duty Services and 32.3% of the overall Reserve/Guard components). About half of males in the Marine Corps Reserve and Active-Duty Marine Corps reported being free of any of the medical conditions surveyed.

### **3.5 Visits to Military and Civilian Health Care Providers**

The number and reasons for visits to military and civilian health care providers in the past 12 months were investigated (see results in Tables 12A and 12B through 15A and 15B). Reasons for visits fell into the following categories: treatment of an illness or injury, follow-up visit for an illness or injury, general physical exam, prescription refill only, eye exam only, prenatal care, same day surgery, mental health care, and emergency care.

#### **3.5.1 Reasons for Visiting a Military Health Care Provider in the Past 12 Months**

Table 12A shows that the three most common reasons for Reserve/Guard personnel to visit a military health care

provider in the past 12 months were for a general physical exam, treatment of an illness or injury, and follow-up for an illness or injury. About half (46.2%) of the Reserve/Guard personnel received a general physical exam from a military health care provider; slightly more females than males got physical exams but the sex difference was not significant. Visits related to illness or injury were the next most common, with females significantly more likely than males to have received treatment. Nearly half of females in the Reserve/Guard (48.5%) were treated for an illness or injury by a military health care provider, and 35% received follow-up treatment for an illness or injury, compared to 34% of males receiving treatment and 21% receiving follow-up. Of note, almost three times as many female as male Reserve/Guard personnel reported seeing a military health care provider for prescription refills only (29.1% females vs. 10.4% males) and nearly twice as many for emergency care (13.1% females vs. 6.8% males).

Higher percentages of Active-Duty than Reserve/Guard personnel utilized military health care providers in the past 12 months for every reason asked about in the questionnaires, as shown in Table 12B. Additionally, for visits to military health care providers, significant sex differences were seen for all reasons. Specifically, females were more likely than males to visit a health care provider for each reason. As was seen among Reserve/Guard personnel, the top three reasons for visiting a military health care provider among Active-Duty personnel were related to illness or injury or for a general physical exam. Overall, about 71% of Active-Duty personnel went to a military health care provider for treatment of an illness or injury and 52% made a follow-up visit for

**Table 11A Number of Self-Reported Lifetime Medical Conditions Among Reserve/Guard Personnel**

Service/Sex	Number of Self-Reported Lifetime Medical Conditions						Any (1 or More)
	0	1	2	3	4	5	
<b>Army Reserve</b>							
Females	20.1	20.2	16.9	15.3	10.7	7.9	8.8 79.9
Males	33.3	25.2	18.1	13.2	4.5	4.5	1.2 66.7
Total	30.1	24.0	17.8	13.7	6.0	5.3	3.1 69.9
<b>Army National Guard</b>							
Females	22.3	27.4	19.1	9.8	7.9	7.1	6.4 77.7
Males	37.2	25.5	17.8	9.4	5.3	2.4	2.5 62.8
Total	35.6	25.7	17.9	9.5	5.5	2.9	2.9 64.4
<b>Naval Reserve</b>							
Females	14.7	20.5	21.9	15.5	12.5	6.7	8.2 85.3
Males	32.3	27.1	16.1	10.7	7.2	3.5	3.0 67.7
Total	29.0	25.9	17.2	11.6	8.2	4.1	4.0 71.0
<b>Marine Corps Reserve</b>							
Females	29.5	20.2	18.3	16.4	8.7	3.4	3.4 70.5
Males	50.4	25.9	14.7	4.1	2.5	1.5	0.9 49.6
Total	49.5	25.7	14.9	4.7	2.8	1.6	1.0 50.5
<b>Air Force Reserve</b>							
Females	16.0	18.8	23.2	9.5	13.2	6.2	13.2 84.0
Males	24.7	28.6	18.7	12.6	6.2	3.5	5.8 75.3
Total	22.9	26.5	19.6	11.9	7.6	4.1	7.4 77.1
<b>Air National Guard</b>							
Females	21.7	15.9	23.0	14.3	8.8	6.8	9.7 78.3
Males	28.6	30.8	19.1	11.1	5.3	2.0	3.1 71.4
Total	27.5	28.4	19.7	11.6	5.9	2.8	4.1 72.5
<b>Total Reserve/Guard Personnel</b>							
Females	20.0	21.5	19.6	13.0	10.1	7.1	8.6 80.0
Males	34.6	26.5	17.8	10.5	5.2	2.9	2.5 65.4
Total	32.3	25.7	18.0	10.9	6.0	3.6	3.5 67.7

Note: Table entries are percentages. Data in this table are a count of conditions reported in Tables 5A through 10A. Standard errors are shown in Table 11A SEE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 11B Number of Self-Reported Lifetime Medical Conditions Among Active-Duty Personnel**

Service/Sex	Number of Self-Reported Lifetime Medical Conditions						Any (1 or More)
	0	1	2	3	4	5	
<b>Army</b>							
Females	16.3	22.4	20.3	18.0	10.4	3.7	8.9
Males	37.4	29.4	15.9	8.8	4.2	1.9	2.4
Total	34.3	28.3	16.6	10.1	5.2	2.1	3.3
<b>Navy</b>							
Females	24.4	26.7	20.3	12.9	7.3	4.4	75.6
Males	43.1	25.8	16.3	8.2	3.7	1.7	56.9
Total	40.6	25.9	16.8	8.8	4.2	2.0	1.7
<b>Marine Corps</b>							
Females	23.4	28.8	22.1	12.5	7.4	3.2	76.6
Males	50.7	28.2	11.5	5.7	2.2	1.0	0.7
Total	49.1	28.3	12.1	6.1	2.5	1.1	0.8
<b>Air Force</b>							
Females	14.7	31.6	21.3	15.2	8.0	5.8	3.4
Males	34.4	29.2	18.5	8.3	5.6	2.3	1.7
Total	30.8	29.7	19.0	9.6	6.0	2.9	2.0
<b>Total Active-Duty Personnel</b>							
Females	18.1	27.0	20.7	15.5	8.6	4.6	5.5
Males	40.0	28.2	16.1	8.1	4.1	1.8	1.7
Total	36.9	28.0	16.7	9.1	4.8	2.2	2.2

Note: Table entries are percentages. Data in this table are a count of conditions reported in Tables 5B through 10B. Standard errors are shown in Table 11BSE in Appendix D.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 12A Reasons for Visiting Military Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Reason/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Treatment of an Illness or Injury</b>							
Females	50.8*	52.4	45.6*	55.3*	39.4	42.2*	48.5*
Males	36.6*	37.4	28.5*	32.6*	29.3	23.3*	33.7*
Total	40.9	39.2	31.5	33.8	32.3	26.7	36.5
<b>Follow-Up Visit for an Illness or Injury</b>							
Females	37.0*	39.9	28.2	47.5*	25.9	28.1*	34.8*
Males	17.5*	26.1	19.3	21.4*	19.0	13.8*	21.4*
Total	23.4	27.8	20.9	22.8	21.1	16.3	23.9
<b>General Physical Exam</b>							
Females	49.6	50.8	57.0	64.9*	53.4	46.9	51.1
Males	39.9	37.7	66.2	51.7*	64.5	47.9	45.1
Total	42.9	39.2	64.6	52.4	61.4	47.7	46.2
<b>Prescription Refill Only</b>							
Females	32.0*	25.9*	29.7*	29.2*	21.2	34.6*	29.1*
Males	12.6*	10.5*	9.3*	10.0*	9.3	7.9*	10.4*
Total	18.5	12.4	13.0	11.1	12.9	12.6	13.8
<b>Eye Exam Only</b>							
Females	14.4	30.2	19.6	31.3*	17.0	29.8	21.7
Males	18.7	17.6	16.7	20.0*	26.1	18.7	18.6
Total	17.4	19.2	17.2	20.6	23.4	20.7	19.1
<b>Prenatal Care</b>							
Females	2.6	5.3	4.0	6.9	5.2	5.7	4.2
<b>Same Day Surgery</b>							
Females	8.3	8.8	2.8	7.8	7.0	3.9	7.2
Males	3.2	5.9	2.6	4.3	1.3	2.6	4.2
Total	4.8	6.3	2.7	4.5	3.0	2.9	4.8
<b>Mental Health Care</b>							
Females	3.9	**	3.2	1.5	1.5	4.6	2.5
Males	0.1	2.3	1.5	0.6	0.2	1.0	1.4
Total	1.2	2.0	1.8	0.6	0.6	1.6	1.6
<b>Emergency Care</b>							
Females	13.8	14.7	12.7*	14.2*	10.0	10.3	13.1*
Males	6.0	7.9	4.8*	6.1*	8.7	5.1	6.8*
Total	8.4	8.8	6.2	6.6	9.1	6.0	8.0

Note: Table entries are percentages. Standard errors are shown in Table 12ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 12B Reasons for Visiting Military Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Reason/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Treatment of an Illness or Injury</b>					
Females	82.8*	77.3*	83.5*	75.1*	78.8*
Males	76.1*	66.8*	69.3*	66.8*	70.1*
Total	77.1	68.2	70.1	68.4	71.4
<b>Follow-Up Visit for an Illness or Injury</b>					
Females	68.3*	58.6*	66.9*	54.4*	61.0*
Males	55.6*	48.8*	51.1*	44.6*	50.3*
Total	57.6	50.1	52.0	46.5	51.9
<b>General Physical Exam</b>					
Females	57.8*	52.5*	60.1*	59.1	57.0*
Males	46.3*	43.7*	46.1*	55.3	47.6*
Total	48.1	44.8	46.9	56.0	49.0
<b>Prescription Refill Only</b>					
Females	60.7*	56.4*	57.1*	58.2*	58.5*
Males	30.1*	24.8*	24.8*	30.0*	27.7*
Total	34.9	28.9	26.7	35.6	32.2
<b>Eye Exam Only</b>					
Females	49.2*	38.0*	32.9	43.9	43.6*
Males	41.6*	30.7*	30.9	39.7	36.3*
Total	42.8	31.7	31.0	40.5	37.4
<b>Prenatal Care</b>					
Females	15.8	17.4	21.7	14.1	16.0
<b>Same Day Surgery</b>					
Females	14.0	15.8*	16.5*	13.2	14.3*
Males	10.7	9.8*	10.0*	11.7	10.6*
Total	11.2	10.6	10.4	12.0	11.1
<b>Mental Health Care</b>					
Females	6.0	6.1*	6.9	9.3*	7.2*
Males	4.6	2.9*	3.8	3.4*	3.7*
Total	4.8	3.3	4.0	4.6	4.2
<b>Emergency Care</b>					
Females	30.7*	27.5*	30.7*	22.0*	26.9*
Males	18.6*	17.8*	21.1*	12.9*	17.4*
Total	20.5	19.1	21.7	14.7	18.8

Note: Table entries are percentages. Standard errors are shown in Table 12BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

an illness or injury. Nearly half (49.0%) of Active-Duty personnel saw a military health care provider for a general physical exam (57.0% of females and 47.6% of males). Eye exams and prescription refills were the next most common reasons for Active-Duty personnel to see a military health care provider (37.4% and 32.2%, respectively). In addition, Active-Duty females were more likely than Reserve/Guard females to receive prenatal care from a military health care provider.

### **3.5.2 Number of Visits to a Military Health Care Provider in the Past 12 Months**

Tables 13A and 13B show the number of visits made to military health care providers. Significantly more males than females made no visits to a military health care provider in the past 12 months. About 19% of Reserve/Guard females and 30% of Reserve/Guard males did not visit a military health care provider at all. Nearly half (45.7%) of Reserve/Guard personnel made between one and three visits, and 43% of females versus 23% of males made four or more visits, a significant sex difference. Overall, about 72% of all Reserve/Guard personnel made one or more visits.

majority (64.1%) made four or more visits; by sex, about 85% of females and 61% of males on Active-Duty made four or more visits to a military health care provider.

Tables 13A and 13B show some of the differences in health care utilization patterns between Reserve/Guard and Active-Duty personnel. Active-Duty personnel made use of military health care services at high rates, with significantly more females (98.3% vs. 94.0%) making at least one visit to a military health care provider in the past 12 months. Although Reserve/Guard personnel were less likely to visit military health care providers, about 81% of Reserve/Guard females and 70% of Reserve/Guard males made at least one visit to a military health care provider, also a significant sex difference.

### **3.5.3 Reasons for Visiting a Civilian Health Care Provider in the Past 12 Months**

As shown in Table 14A, Reserve/Guard personnel were most likely to visit a civilian health care provider in the past 12 months for care related to an illness or injury or for a general physical exam. About 60% of the Reserve/Guard saw a civilian health care provider for treatment of an illness or injury.

Approximately 40% overall had a general physical exam or made a follow-up visit for an illness or injury, although significantly more females than males utilized civilian health care providers for either of these two reasons: About 58% of Reserve/Guard females and 37% of Reserve/Guard males had a general physical exam, and 45% of females and 39% of males made a follow-up visit for an

**Table 13A Number of Visits to a Military Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Visits/Sex	Army Reserve	National Guard	Army	National Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>No Visits</b>								
Females	26.0	12.4*	14.4	9.8*	21.4	13.5*	18.9*	
Males	30.1	32.6*	20.1	27.3*	21.0	34.5*	29.9*	
Total	28.8	30.2	19.1	26.3	21.1	30.9	27.9	
<b>One Visit</b>								
Females	18.6	20.9	25.0*	17.7	27.9	21.6	21.3	
Males	22.2	22.4	34.9*	24.1	32.1	30.2	25.4	
Total	21.1	22.3	33.1	23.7	30.9	28.7	24.7	
<b>Two Visits</b>								
Females	8.4	11.0	15.2	13.0	5.8	9.9	9.8	
Males	10.6	13.7	12.1	14.2	13.2	11.9	12.7	
Total	9.9	13.4	12.7	14.1	11.1	11.6	12.2	
<b>Three Visits</b>								
Females	5.3	7.3	8.8	10.5	8.4	9.2	7.1	
Males	10.2	8.2	10.4	6.2	13.5	10.0	9.2	
Total	8.7	8.1	10.1	6.4	12.0	9.9	8.8	
<b>Four or More Visits</b>								
Females	41.7*	48.3*	36.7*	49.0*	36.5	45.8*	42.9*	
Males	26.9*	23.1*	22.5*	28.3*	20.2	13.4*	22.7*	
Total	31.4	26.1	25.0	29.4	24.8	18.9	26.4	
<b>At Least One Visit</b>								
Females	74.0	87.6*	85.6	90.2*	78.6	86.5*	81.1*	
Males	69.9	67.4*	79.9	72.7*	79.0	65.5*	70.1*	
Total	71.2	69.8	80.9	73.7	78.9	69.1	72.1	

Note: Table entries are percentages. Standard errors are shown in Table 13ASE in Appendix D.

\*Sex differences significant at  $p < 0.05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 13B Number of Visits to a Military Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Visits/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>No Visits</b>					
Females	1.4	2.7*	2.3*	1.1	1.7*
Males	2.3	10.9*	10.3*	2.1	6.0*
Total	2.2	9.9	9.8	1.9	5.4
<b>One Visit</b>					
Females	1.3*	5.6*	3.5*	0.6*	2.3*
Males	7.3*	13.9*	10.8*	8.7*	10.1*
Total	6.4	12.8	10.4	7.1	9.0
<b>Two Visits</b>					
Females	5.0*	7.0*	4.5*	3.1*	4.9*
Males	9.8*	12.6*	13.2*	11.3*	11.5*
Total	9.0	11.9	12.7	9.7	10.5
<b>Three Visits</b>					
Females	3.5*	7.0*	6.1*	7.7	6.0*
Males	13.0*	11.3*	9.9*	12.7	12.0*
Total	11.5	10.7	9.7	11.7	11.1
<b>Four or More Visits</b>					
Females	88.8*	77.7*	83.6*	87.4*	85.2*
Males	67.5*	51.3*	55.8*	65.3*	60.5*
Total	70.8	54.8	57.4	69.7	64.1
<b>At Least One Visit</b>					
Females	98.6	97.3*	97.7*	98.9	98.3*
Males	97.7	89.1*	89.7*	97.9	94.0*
Total	97.8	90.1	90.2	98.1	94.6

Note: Table entries are percentages. Standard errors are shown in Table 13BSE in Appendix D.

\*Sex differences significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 14A Reasons for Visiting a Civilian Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Reason/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Treatment of an Illness or Injury</b>							
Females	60.9	65.8	62.2	54.0	61.7	64.5	62.9
Males	61.0	56.1	60.8	57.1	60.4	66.3	59.3
Total	61.0	57.2	61.1	57.0	60.7	66.0	59.9
<b>Follow-Up Visit for an Illness or Injury</b>							
Females	48.3	45.9	45.6	35.1	39.2	40.0	45.1*
Males	42.0	36.9	40.3	32.7	41.3	39.5	38.8*
Total	43.7	38.0	41.3	32.9	40.8	39.6	39.9
<b>General Physical Exam</b>							
Females	57.6*	60.9*	56.4*	46.8*	47.5	60.1*	57.5*
Males	34.7*	37.9*	39.8*	30.1*	35.3	35.4*	36.5*
Total	40.8	40.6	43.2	31.0	38.1	39.7	40.2
<b>Prescription Refill Only</b>							
Females	43.2*	34.6	37.6	32.8*	42.3	39.5	39.4*
Males	30.5*	24.3	30.2	18.9*	35.0	32.4	27.8*
Total	33.8	25.6	31.7	19.6	36.6	33.7	29.8
<b>Eye Exam Only</b>							
Females	52.1*	38.7	46.5	40.3*	46.0	47.9*	46.3*
Males	37.2*	31.7	43.1	29.8*	35.7	35.6*	34.7*
Total	41.2	32.5	43.8	30.3	38.0	37.8	36.7
<b>Prenatal Care</b>							
Females	8.0	9.7	6.1	11.9	5.5	6.6	7.9
<b>Same Day Surgery</b>							
Females	10.7	14.0	10.9	4.2*	11.7	11.2	11.7
Males	7.1	10.6	8.6	8.1*	14.3	10.5	9.9
Total	8.1	11.0	9.1	7.9	13.7	10.7	10.2
<b>Mental Health Care</b>							
Females	5.8	2.9	6.2*	5.3	5.8	7.2	5.2*
Males	2.5	3.4	2.5*	1.8	3.6	3.8	3.1*
Total	3.4	3.3	3.2	2.0	4.1	4.4	3.5
<b>Emergency Care</b>							
Females	20.3	21.2	13.3	15.4	13.2	17.7	18.6*
Males	14.6	13.6	11.6	15.6	11.1	15.0	13.7*
Total	16.1	14.5	12.0	15.6	11.5	15.5	14.6

Note: Table entries are percentages. Standard errors are shown in Table 14ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

illness or injury. Over one-third (36.7%) of all Reserve/Guard personnel had an eye exam only from a civilian health care provider, and about 30% got a prescription refill only. For eye exams and prescription refills as well as for emergency care and mental health care, Reserve/Guard females were more likely than their male counterparts to report seeing a civilian health care provider.

Table 14B shows that Active-Duty personnel visited civilian health care providers in the past 12 months at relatively low rates; females were significantly more likely than males to visit civilian providers for general physical exams, prescription refill only, and eye exam only. Overall, about 12% of Active-Duty personnel saw a civilian health care provider for treatment of an illness or injury. Army and Air Force personnel went to civilian health care providers for treatment or follow-up of an illness or injury more than Navy and Marine Corps personnel. General physical exams were one of the least common reasons for Active-Duty personnel to visit civilian health care providers, and among those who reported these types of visits, there were about twice as many females as males. Prenatal care ranked high among Active-Duty females as a reason for visiting a civilian health care provider.

### **3.5.4 Number of Visits to a Civilian Health Care Provider in the Past 12 Months**

Reserve/Guard personnel reported high utilization of civilian health care providers in the past 12 months, as shown in Table 15A. In the Reserve/Guard, approximately 95% of females versus 91% of males made at least one visit to a civilian health care provider, a statistically significant sex difference. Of

Reserve/Guard personnel who visited a civilian health care provider, the majority made four or more visits (69.8% for Reserve/Guard females and 50.5% for Reserve/Guard males).

Most Active-Duty personnel did not visit a civilian health care provider in the past 12 months, but in all categories females were significantly more likely than males to have gone to such a provider, as shown in Table 15B. Approximately 41% of Active-Duty females and 25% of Active-Duty males made one or more visits to a civilian health care provider.

Patterns of usage of civilian health care providers in the past 12 months differed between Reserve/Guard and Active-Duty personnel. Over 90% of Reserve/Guard personnel made one or more visits to a civilian health care provider compared to only about 30% of Active-Duty personnel.

**Table 14B Reasons for Visiting a Civilian Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Reason/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Treatment of an Illness or Injury</b>					
Females	20.6	7.2	7.9	17.1	12.9
Males	20.1	6.9	7.9	21.7	11.6
Total	20.1	6.9	7.9	20.8	11.8
<b>Follow-Up Visit for an Illness or Injury</b>					
Females	12.0	3.7	3.6	6.7	6.6
Males	10.7	3.7	4.2	6.6	5.6
Total	10.9	3.7	4.2	6.7	5.7
<b>General Physical Exam</b>					
Females	6.5	2.6*	5.0	7.0*	4.8*
Males	5.8	1.6*	2.9	1.0*	2.7*
Total	5.9	1.7	3.1	2.2	2.9
<b>Prescription Refill Only</b>					
Females	9.6	3.3*	3.4	6.9	5.7*
Males	5.2	1.3*	1.8	2.6	2.4*
Total	5.9	1.6	1.9	3.4	2.8
<b>Eye Exam Only</b>					
Females	17.9	10.8*	12.6*	22.0*	15.1*
Males	13.7	7.7*	7.3*	9.7*	9.1*
Total	14.4	8.1	7.6	12.1	9.9
<b>Prenatal Care</b>					
Females	13.3	3.6	5.8	7.3	7.2
<b>Same Day Surgery</b>					
Females	2.8	2.0*	1.6	1.4	2.1
Males	4.1	0.8*	1.4	1.3	1.7
Total	3.9	1.0	1.5	1.3	1.7
<b>Mental Health Care</b>					
Females	2.1	1.4	0.8	4.2	2.1
Males	2.3	1.3	1.5	1.1	1.5
Total	2.3	1.3	1.5	1.7	1.6
<b>Emergency Care</b>					
Females	12.0	4.4	4.9	6.8	7.0
Males	8.2	3.6	3.3	5.8	4.7
Total	8.9	3.7	3.4	6.0	5.0

Note: Table entries are percentages. Standard errors are shown in Table 14BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 15A Number of Visits to a Civilian Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Visits/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>No Visits</b>								
Females	2.7*	7.5	3.7	7.4	5.5	4.2	4.7*	4.7*
Males	8.5*	12.3	6.6	9.6	5.0	3.7	9.1*	9.1*
Total	7.0	11.7	6.0	9.5	5.1	3.8	8.4	8.4
<b>One Visit</b>								
Females	6.5*	7.2	6.5*	12.5	7.8	5.3*	6.7*	6.7*
Males	13.8*	11.2	11.5*	16.5	8.2	15.4*	12.4*	12.4*
Total	11.9	10.8	10.5	16.3	8.1	13.7	11.4	11.4
<b>Two Visits</b>								
Females	10.4	6.0*	9.3	9.6*	11.2	7.6*	8.8*	8.8*
Males	14.8	15.4*	13.4	17.5*	13.1	14.8*	14.9*	14.9*
Total	13.6	14.3	12.6	17.1	12.7	13.6	13.9	13.9
<b>Three Visits</b>								
Females	9.3	8.8	8.8	8.2	10.9	15.1	10.0*	10.0*
Males	8.3	14.9	13.1	12.3	14.0	14.1	13.1*	13.1*
Total	8.6	14.2	12.2	12.1	13.3	14.3	12.6	12.6
<b>Four or More Visits</b>								
Females	71.2*	70.5*	71.8*	62.3*	64.5	67.7*	69.8*	69.8*
Males	54.5*	46.1*	55.3*	44.1*	59.7	52.0*	50.5*	50.5*
Total	58.9	48.9	58.6	45.0	60.8	54.6	53.7	53.7
<b>At Least One Visit</b>								
Females	97.3*	92.5	96.3	92.6	94.5	95.8	95.3*	95.3*
Males	91.5*	87.7	93.4	90.4	95.0	96.3	90.9*	90.9*
Total	93.0	88.3	94.0	90.5	94.9	96.2	91.6	91.6

Note: Table entries are percentages. Standard errors are shown in Table 15ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 15B Number of Visits to a Civilian Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Visits/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>No Visits</b>					
Females	46.3	73.0*	66.9*	43.2*	59.1*
Males	55.9	82.2*	83.3*	62.1*	74.6*
Total	54.2	81.0	82.4	58.4	72.5
<b>One Visit</b>					
Females	17.3	12.1*	15.6*	28.8	17.1*
Males	15.4	9.5*	9.5*	20.3	12.1*
Total	15.7	9.8	9.9	22.0	12.7
<b>Two Visits</b>					
Females	11.8	5.4*	5.9*	9.3	8.0*
Males	12.7	2.4*	1.8*	7.0	4.9*
Total	12.5	2.8	2.0	7.5	5.3
<b>Three Visits</b>					
Females	5.0	2.6*	2.3	1.4	3.0*
Males	3.5	1.2*	0.8	2.5	1.7*
Total	3.7	1.4	0.9	2.3	1.9
<b>Four or More Visits</b>					
Females	19.6	7.0	9.3	17.3*	12.7*
Males	12.6	4.7	4.5	8.0*	6.7*
Total	13.8	5.0	4.8	9.9	7.5
<b>At Least One Visit</b>					
Females	53.7	27.0*	33.1*	56.8*	40.9*
Males	44.1	17.8*	16.7*	37.9*	25.4*
Total	45.8	19.0	17.6	41.6	27.5

Note: Table entries are percentages. Standard errors are shown in Table 15BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

### 3.6 Summary

This chapter presented data on health and health care patterns among military personnel. Main findings of interest are summarized below.

- Using the Medical Outcome Study (MOS) 36-item Short Form items, we reported health status, role limitations, and levels of vitality. Over two-thirds of Active-Duty and Reserve/Guard personnel considered themselves to be in “excellent” or “very good” general health. In addition, significantly more males than females in the Military rated their own health as “excellent” (26.6% vs. 22.8% among the Reserve/Guard; 29.1% vs. 21.0% in the Active-Duty). For perceived role limitations, significantly more females than males in the total Reserve/Guard and Active-Duty populations reported high role limitations due to physical or emotional problems. For vitality, a summary measure of energy, significantly more females than males in the Military scored “low.” Additionally, more Active-Duty personnel scored “low” than did Reserve/Guard personnel. Although most personnel felt that their health status was good, it is of concern that more females than males reported greater role limitations and lower levels of vitality.
- Some chronic or serious medical conditions among military personnel were noteworthy. The most prevalent medical conditions included allergies other than chronic rhinitis or hay fever,

hemorrhoids, and hernia or rupture. Military health care providers should be prepared to handle these types of conditions, even when personnel perform their duties away from a medical clinic.

- In addition to the medical conditions noted above, high cholesterol and high blood pressure also were likely to be reported. Lifetime prevalence was slightly lower among Active-Duty than Reserve/Guard personnel for both conditions. With greater attention to the prevention and treatment of these two conditions, their prevalence could be even lower.
- Although rare in this population, some prevalence of cancer was detected. Cervical cancer had the highest prevalence rate among all cancers studied for both Active-Duty and Reserve/Guard personnel, and it was the most commonly reported type of cancer among military females. A history of cervical cancer was reported by about 3% of Reserve/Guard and Active-Duty females. Less than 1% of military females reported ever having breast cancer. Skin cancer also was rare, with about 2% of Reserve/Guard and 1% of Active-Duty personnel reporting it. Although these cancer rates are quite low, early detection and ongoing education could further reduce, if not eliminate, the prevalence of these cancers among military personnel.

- Notably, urinary tract infections (UTIs) were reported by nearly half of military females and about 8% to 9% of males. Additionally, females were at least four times more likely than males to report having repeated kidney infections.
- Female personnel reported similar lifetime prevalence for herpes or genital warts and other sexually transmitted diseases (STDs). For males, herpes and genital warts were less common than other STDs. Total Active-Duty and Reserve/Guard personnel had comparable rates of herpes and genital warts (5.5% and 5.4%), but Active-Duty personnel reported higher rates of other STDs (10.0% vs. 6.9%). The low rates of all of these STDs suggest that military personnel are heeding health education messages regarding safe sexual practices.
- The most commonly reported reasons for visiting a military or civilian health care provider in the past 12 months were for treatment or follow-up of an illness or injury or for a general physical exam. Further research into the causes of these illnesses or injuries and their prevention is warranted.
- Significantly more females than males in the total Reserve/Guard and Active-Duty reported any visits to either military and civilian health care providers.
- Approximately 68% of all Reserve/Guard personnel and 63% of all Active-Duty personnel reported ever having any of the 28 medical conditions asked about in the questionnaires. More females than males in the Military indicated that they had had any of the 28 medical conditions (80.0% vs. 65.4% for Reserve/Guard; 81.9% vs. 60.0% for Active-Duty). The finding of a sex difference for medical conditions may be linked to the fact that more females visited health care providers. Nonetheless, visits to health care providers are important for health promotion and disease prevention and may need to be encouraged among male personnel.

## 4. HEALTH BEHAVIORS

Proper health behaviors, such as eating a balanced diet, obtaining adequate exercise, using protective gear, and abstaining from excessive alcohol and tobacco use, affect the health of personnel in the Military. This chapter reports on various health behaviors among Reserve/Guard and Active-Duty personnel. Exercise and diet, as measured by perceived physical fitness, eating behaviors, and factors influencing food purchase, are discussed. Hours of sleep per night also are examined. In addition, we report on alcohol use, smoking and exposure to tobacco smoke, and the use and availability of protective gear.

### 4.1 Perceived Physical Fitness

Perceived physical fitness is a measure of personnel's perception of their state of fitness at the time of the survey.

Personnel indicated their responses on a scale ranging from "poor" to "excellent." Responses to this measure for Reserve/Guard personnel are presented in Table 16A. Overall, many Reserve/Guard personnel, about 44%, indicated they felt their physical fitness was "good." The second most common response (26.7%) was that their physical fitness was "fair." Few personnel perceived their physical fitness to be "excellent" (3.6%) or "poor" (7.6%).

Proportion of females than males indicated their physical fitness was "excellent" (7.5% vs. 2.9%) or "good" (24.2% vs. 16.8%). Furthermore, males were significantly more likely to feel their physical fitness was "fair" (27.9% vs. 20.3%) or "poor" (8.2% vs. 4.4%). Across the Reserve/Guard components, females also were significantly more likely to report being physically fit, although patterns varied by Reserve/Guard component. For some Reserve/Guard components, differences between males and females were particularly pronounced. For example, among Army Reserve personnel, females were three times more likely than males to report that their health was "excellent" (10.5% vs. 3.3%). Notably, the Air Force Reserve was the only Reserve/Guard component where no significant differences between sexes appeared.

Table 16B portrays perceived physical fitness for Active-Duty personnel. Overall, most personnel indicated their physical fitness was "good" (39.9%) or "fair" (30.0%), with smaller percentages of personnel reporting that their physical fitness was "very good" or "poor." Notably, a very small percentage (2.8%) reported they perceived themselves to be in "excellent" physical shape. These findings differ slightly from Reserve/Guard personnel overall in that more Active-Duty personnel than Reserve/Guard personnel reported their fitness was "fair" and "poor" and fewer reported their fitness was "good," "very good," or "excellent."

Overall, Reserve/Guard females perceived themselves to be more physically fit than males. For example, a significantly higher

**Table 16A Perceived Physical Fitness Among Reserve/Guard Personnel**

Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Reserve/Guard Personnel
<b>Females</b>							
Excellent	10.5*	6.6	3.3	5.9	5.5	6.8*	7.5*
Very good	19.5	26.3*	28.5*	20.9*	23.9	29.3*	24.2*
Good	45.3	47.6	37.0	40.4	41.6	38.2	43.6
Fair	21.5	14.4*	25.5	25.8*	22.7	22.6	20.3*
Poor	3.3*	5.1	5.7*	7.0*	6.2	3.2*	4.4*
<b>Males</b>							
Excellent	3.3*	3.1	2.4	2.5	2.1	2.7*	2.9*
Very good	17.8	17.0*	15.9*	14.0*	16.7	16.3*	16.8*
Good	44.3	46.7	40.8	33.1	44.4	42.1	44.2
Fair	26.9	26.7*	28.6	35.5*	27.9	29.9	27.9*
Poor	7.8*	6.5	12.2*	15.0*	8.9	8.9*	8.2*
<b>Total</b>							
Excellent	5.1	3.4	2.6	2.6	2.8	3.4	3.6
Very good	18.2	18.0	18.3	14.3	18.2	18.4	18.0
Good	44.5	46.8	40.1	33.4	43.8	41.5	44.1
Fair	25.6	25.4	28.0	35.1	26.8	28.7	26.7
Poor	6.7	6.4	11.0	14.6	8.4	8.0	7.6

Note: Table entries are percentages. Standard errors are shown in Table 16ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 16B Perceived Physical Fitness Among Active-Duty Personnel**

Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel	
					Total	Active-Duty Personnel
<b>Females</b>						
Excellent	4.5*	6.6*	7.9*	5.7*	5.6*	
Very good	20.3*	25.1*	24.6*	24.7*	23.2*	
Good	42.8	39.1	36.1	45.7	42.5	
Fair	25.7*	20.4*	20.5*	18.8*	21.7*	
Poor	6.7*	8.8*	10.9*	5.2	6.9*	
<b>Males</b>						
Excellent	1.8*	2.8*	2.8*	2.2*	2.3*	
Very good	13.3*	16.5*	9.6*	15.2*	14.1*	
Good	36.8	38.2	38.1	45.4	39.5	
Fair	35.8*	27.7*	31.9*	29.0*	31.4*	
Poor	12.3*	14.8*	17.6*	8.2	12.7*	
<b>Total</b>						
Excellent	2.2	3.3	3.1	2.8	2.8	
Very good	14.3	17.6	10.5	16.9	15.4	
Good	37.7	38.3	38.0	45.5	39.9	
Fair	34.3	26.8	31.2	27.1	30.0	
Poor	11.5	14.0	17.2	7.7	11.9	

Note: Table entries are percentages. Standard errors are shown in Table 16BSE in Appendix D.

\*Sex differences are significant at  $p<.05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

Examining overall Active-Duty estimates by sex revealed significant differences. As was true for the Reserve/Guard, significantly more females reported being in “excellent” or “very good” physical condition and significantly more males reported being in “fair” or “poor” physical condition. For example, about 6% of Active-Duty females said their physical fitness was “excellent” compared with only 2% of Active-Duty males. The significant differences between females and males in the overall Active-Duty population were also apparent for almost every Active-Duty Service. The Air Force was the only Active-Duty Service for which males were not significantly more likely to report being in “poor” physical condition. The patterns of significance for the Active-Duty Services were more consistent than for the Reserve/Guard components.

#### 4.2 Selected Eating Behaviors

Table 17A depicts various eating behaviors for the week prior to the survey for Reserve/Guard personnel. Data are presented for the number of days personnel ate breakfast, snacked between meals, overate, did not eat enough, and took vitamins. Similar percentages of Reserve/Guard personnel reported that they ate breakfast 0 to 2 days, 3 to 5 days, and 6 to 7 days (34.0%, 30.7%, and 35.3%, respectively). Data for snacking between meals showed similar estimates. The majority of Reserve/Guard personnel reported that overeating or not eating enough was an infrequent occurrence. About 81% of personnel said that they overate for 0 to 2 days, and 79% reported the same number of days for not eating enough. However, small but important percentages

reported that they did not eat enough for 6 to 7 days (4.3%) or that they overate for 6 to 7 days (4.2%). Data for taking vitamins were somewhat different from the other behaviors. The largest percentage of personnel (62.5%) reported that they took vitamins 0 to 2 days. Notably, only about one-quarter (25.8%) indicated that they took vitamins regularly (6 to 7 days in the past week).

For two of the behaviors, days that personnel did not eat enough and days that personnel took vitamins, estimates for males and females differed significantly. Moreover, patterns were similar across the two behaviors. Significantly more Reserve/Guard males reported not eating enough for 0 to 2 days and taking vitamins for 0 to 2 days (80.0% vs. 72.5% and 64.1% vs. 53.7%, respectively). The reverse relationship was true for both behaviors for the 6 to 7 days category. Reserve/Guard females were significantly more likely to not eat enough for 6 to 7 days (8.2% vs. 3.5%) and were significantly more likely to take vitamins for 6 to 7 days (32.5% vs. 24.6%).

Significant differences between males and females in the Reserve/Guard components varied greatly across each type of behavior. Notably, data for not eating enough and taking vitamins revealed many significant differences between males and females and similar patterns as in the overall Reserve/Guard population. For the number of days personnel reported not eating enough, among all Reserve/Guard components except the Marine Corps Reserve and Air Force Reserve, significantly more males reported not eating enough for 0 to 2 days and significantly more females reported not eating enough for 6 to 7 days. Moreover, in the Air

**Table 17A Selected Eating Behaviors in the Past Week Among Reserve/Guard Personnel**

Behavior/Days/Sex	Army Reserve	Army National Guard	National Guard	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Number of Days Ate Breakfast</b>								
<b>0 to 2 days</b>								
Females	36.3	38.8	29.8	36.7	29.5	33.0	33.0	35.1
Males	30.8	36.9	33.8	35.5	28.7	30.6	33.8	33.8
Total	32.1	37.1	33.0	35.6	28.9	31.0	34.0	34.0
<b>3 to 5 days</b>								
Females	27.1	32.7	27.9	30.2	25.0	34.7	29.5	29.5
Males	31.8	32.2	28.3	31.4	30.1	26.7	30.9	30.9
Total	30.7	32.3	28.2	31.3	29.1	28.0	30.7	30.7
<b>6 to 7 days</b>								
Females	36.6	28.5	42.3	33.1	45.4	32.3*	35.4	35.4
Males	37.4	30.9	37.9	33.1	41.2	42.7*	35.3	35.3
Total	37.2	30.7	38.8	33.1	42.0	41.0	35.3	35.3
<b>Number of Days Ate Snacks Between Meals</b>								
<b>0 to 2 days</b>								
Females	27.1	34.5	36.1	27.1	36.7	26.7	31.2	31.2
Males	33.9	37.0	32.7	24.8	29.6	31.4	34.0	34.0
Total	32.2	36.7	33.3	24.9	31.1	30.7	33.6	33.6
<b>3 to 5 days</b>								
Females	37.5	34.8	33.4	38.6	31.6	36.3	35.5	35.5
Males	39.9	34.1	35.4	40.2	42.8	39.0	37.0	37.0
Total	39.3	34.2	35.1	40.1	40.5	38.6	36.8	36.8
<b>6 to 7 days</b>								
Females	35.4*	30.6	30.5	34.3	31.7	37.0	33.3	33.3
Males	26.2*	28.9	31.9	35.0	27.6	29.5	29.0	29.0
Total	28.5	29.1	31.6	35.0	28.4	30.7	29.6	29.6
<b>Number of Days Overage</b>								
<b>0 to 2 days</b>								
Females	81.0	81.9	81.6	81.8	83.7	83.6	81.9	81.9
Males	81.2	81.3	80.1	77.9	78.8	80.3	80.7	80.7
Total	81.1	81.4	80.4	78.1	79.8	80.8	80.9	80.9
<b>3 to 5 days</b>								
Females	11.9	13.3	14.6	13.3	13.7	12.0	12.8	12.8
Males	16.0	14.5	14.8	16.9	16.8	16.4	15.4	15.4
Total	15.0	14.3	14.7	16.8	16.2	15.7	15.0	15.0
<b>6 to 7 days</b>								
Females	7.2*	4.9	3.9	4.9	2.6	4.3	5.3	5.3
Males	2.8*	4.2	5.1	5.2	4.4	3.4	4.0	4.0
Total	3.9	4.3	4.9	5.2	4.0	3.5	4.2	4.2

See notes at end of table.

(continued)

Table 17A (continued)

Behavior/Days/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Number of Days Did Not Eat Enough</b>							
<b>0 to 2 days</b>							
Females	72.8*	65.5*	78.2	69.8	82.2	74.1*	72.5*
Males	84.8*	76.5*	81.9	70.4	83.2	86.0*	80.0*
Total	81.8	75.3	81.2	70.3	83.0	84.1	78.9
<b>3 to 5 days</b>							
Females	17.9	25.8	14.9	23.7	11.7	18.3*	19.2
Males	12.3	19.6	15.5	22.0	15.5	10.6*	16.4
Total	13.7	20.2	15.4	22.1	14.7	11.8	16.9
<b>6 to 7 days</b>							
Females	9.3*	8.6	6.9*	6.5	6.0	7.7	8.2*
Males	2.9*	4.0	2.6*	7.6	1.3	3.4	3.5*
Total	4.5	4.4	3.4	7.6	2.3	4.1	4.3
<b>Number of Days Took Vitamins</b>							
<b>0 to 2 days</b>							
Females	56.2	58.6	47.3*	59.4*	47.0*	46.9*	53.7*
Males	61.2	68.4	59.4*	67.8*	60.7*	57.7*	64.1*
Total	60.0	67.4	57.1	67.5	57.9	56.0	62.5
<b>3 to 5 days</b>							
Females	16.7	7.4	14.0	13.1	12.3	21.1*	13.8
Males	13.5	9.6	14.0	11.0	10.5	12.4*	11.3
Total	14.3	9.4	14.0	11.1	10.9	13.8	11.7
<b>6 to 7 days</b>							
Females	27.1	33.9*	38.7*	27.5	40.7*	32.0	32.5*
Males	25.3	22.0*	26.6*	21.2	28.8*	29.9	24.6*
Total	25.7	23.2	28.9	21.5	31.3	30.3	25.8

Note: Table entries are percentages. Standard errors are shown in Table 17ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

National Guard, females also were significantly more likely not to eat enough for 3 to 5 days (18.3% vs. 10.6%). Taking vitamins showed the same pattern of male-female differences, although for this behavior all Reserve/Guard components except the Army Reserve showed significant sex differences. Specifically, males were significantly more likely to take vitamins for 0 to 2 days, and females were significantly more likely to take them for 6 to 7 days. Further, only within the Air National Guard did taking vitamins for 3 to 5 days differ significantly between females and males (21.1% vs. 12.4%, respectively).

Table 17B depicts the same eating behaviors for Active-Duty personnel whose estimates overall were similar to those for Reserve/Guard personnel. Percentages of Active-Duty personnel reporting that they ate breakfast and snacked between meals were roughly split across the categories of 0 to 2 days, 3 to 5 days, and 6 to 7 days. Moreover, the majority of Active-Duty personnel reported that overeating or not eating enough happened infrequently. About 82% of personnel said that they overate for 0 to 2 days, and 78% reported the same for not eating enough. However, small but notable percentages reported that they did not eat enough for 6 to 7 days (5.7%) or that they overate for 6 to 7 days (4.1%). For both of these behaviors, as the number of days increased, the prevalence decreased. Data for taking vitamins showed that the largest percentage of personnel (68.5%) reported that they took vitamins for 0 to 2 days; however, only about one-fifth (20.3%) indicated that they took vitamins for 6 to 7 days.

Estimates for Active-Duty males and females differed significantly for the number of days personnel ate breakfast, did not eat enough, and took vitamins. Significantly more females than males reported that they ate breakfast for 6 to 7 days (33.7% vs. 28.9%). Notably, no sex differences were present for this behavior among Reserve/Guard personnel. The pattern of significance for days not eating enough differs from that of the Reserve/Guard population. For example, significantly more Active-Duty females indicated not eating enough for 3 to 5 days (19.4% vs. 16.3%). For days taking vitamins, findings were similar to those of Reserve/Guard personnel. Significantly more males than females (69.8% vs. 60.3%) reported taking vitamins for 0 to 2 days, while females were significantly more likely to take vitamins for 6 to 7 days (27.5% vs. 19.1%).

Significant differences between males and females also were present for the Active-Duty Services for each behavior except days that personnel overate. The Active-Duty Services, however, that showed significant differences and the patterns of significance varied. Interestingly, in all Active-Duty Services except the Air Force, males and females differed significantly in their vitamin-taking behavior for 0 to 2 days and 6 to 7 days. Specifically, significantly more males than females in the Army, Navy, and Marine Corps reported taking vitamins for 0 to 2 days in the week prior to the survey. In contrast, among these three Active-Duty Services, significantly more females than males reported the same behavior for 6 to 7 days. These findings about vitamins are similar to those reported for the Reserve/Guard components.

**Table 17B Selected Eating Behaviors in the Past Week Among Active-Duty Personnel**

Behavior/Days/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Number of Days Ate Breakfast</b>					
<b>0 to 2 days</b>					
Females	33.0	42.2*	49.6	33.4	36.3
Males	30.7	47.6*	43.3	36.2	38.4
Total	31.0	46.9	43.7	35.7	38.1
<b>3 to 5 days</b>					
Females	35.9	28.0	29.1	25.3	29.9
Males	37.2	28.3	34.7	30.3	32.7
Total	37.0	28.3	34.3	29.4	32.3
<b>6 to 7 days</b>					
Females	31.2	29.8*	21.3	41.3*	33.7*
Males	32.1	24.1*	22.0	33.5*	28.9*
Total	31.9	24.8	22.0	35.0	29.6
<b>Number of Days Ate Snacks Between Meals</b>					
<b>0 to 2 days</b>					
Females	30.8	33.5	37.2	25.2	29.9
Males	34.4	32.9	33.0	27.1	32.0
Total	33.9	33.0	33.2	26.7	31.7
<b>3 to 5 days</b>					
Females	36.1	35.9*	30.3*	46.1	39.1
Males	37.8	40.0*	37.3*	42.0	39.4
Total	37.5	39.5	36.9	42.8	39.3
<b>6 to 7 days</b>					
Females	33.1	30.6*	32.6	28.7	31.0
Males	27.8	27.1*	29.7	30.9	28.6
Total	28.6	27.6	29.8	30.5	29.0
<b>Number of Days Overage</b>					
<b>0 to 2 days</b>					
Females	83.9	81.0	84.5	84.4	83.4
Males	82.3	80.7	83.1	80.0	81.4
Total	82.5	80.7	83.2	80.8	81.7
<b>3 to 5 days</b>					
Females	10.8	14.7	11.3	12.2	12.3
Males	14.2	14.7	12.3	16.3	14.6
Total	13.7	14.7	12.3	15.5	14.3
<b>6 to 7 days</b>					
Females	5.2	4.4	4.3	3.4	4.4
Males	3.5	4.6	4.6	3.7	4.0
Total	3.8	4.6	4.5	3.6	4.1

See notes at end of table.

**Table 17B (continued)**

Behavior/Days/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Number of Days Did Not Eat Enough</b>					
<b>0 to 2 days</b>					
Females	71.7	76.4	70.1	77.6*	74.8
Males	75.6	76.7	72.8	85.6*	78.0
Total	75.0	76.7	72.7	84.2	77.6
<b>3 to 5 days</b>					
Females	22.1*	17.9	22.4	17.3	19.4*
Males	15.6*	18.8	22.0	11.3	16.3*
Total	16.5	18.7	22.0	12.4	16.7
<b>6 to 7 days</b>					
Females	6.3	5.7	7.6	5.1	5.8
Males	8.9	4.5	5.2	3.0	5.7
Total	8.5	4.7	5.3	3.4	5.7
<b>Number of Days Took Vitamins</b>					
<b>0 to 2 days</b>					
Females	60.6*	62.8*	63.8*	57.7	60.3*
Males	69.2*	72.5*	75.6*	64.5	69.8*
Total	67.9	71.2	74.9	63.2	68.5
<b>3 to 5 days</b>					
Females	10.6	10.6	9.4	15.5	12.2
Males	10.7	10.2	9.1	13.5	11.1
Total	10.7	10.3	9.1	13.9	11.2
<b>6 to 7 days</b>					
Females	28.8*	26.6*	26.8*	26.8	27.5*
Males	20.1*	17.3*	15.3*	22.0	19.1*
Total	21.3	18.5	16.0	22.9	20.3

Note: Table entries are percentages. Standard errors are shown in Table 17BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

### 4.3 Dietary Behaviors and Attitudes

Table 18A depicts a variety of behaviors and attitudes related to diet and food among Reserve/Guard personnel, including trying to lose weight, changing a diet due to medical conditions, satisfaction with eating patterns, eating in secret, and the importance of diet/food in terms of health. Several of these behaviors were quite prevalent in the Reserve/Guard population. Interestingly, about 64% of Reserve/Guard personnel reported that they were satisfied with their eating patterns, yet over half (51.0%) also indicated they had tried to lose weight in the past year. About one-third of personnel (32.8%) indicated that diet and food choices were important to their health. Very few personnel had changed their diet because of a medical condition, and even fewer had eaten in secret. For all behaviors/attitudes except the importance of food on health, males differed significantly from females. Significantly more females than males had tried to lose weight in the past year (65.4% vs. 48.3%) and had eaten in secret (8.2% vs. 3.6%). Notably, the prevalence of eating in secret for females was more than double that of males. Changing a diet due to a medical condition also was significantly more likely among females than males (13.8% vs. 9.7%). In contrast, significantly more males indicated they were satisfied with their eating patterns (65.7% vs. 51.9%).

As can be seen in Table 18A, these same patterns of sex differences for losing weight, changing diet due to medical conditions, satisfaction with eating, and eating in secret were found for many of the Reserve/Guard components. In addition, although

there were no significant differences between sexes in the total Reserve/Guard population for attitudes about the impact of diet and food on health, estimates for Air National Guard personnel showed significant differences. Males were significantly more likely than females to report that they felt that food and diet choices had an important health impact (32.3% vs. 20.2%). Striking significant differences between males and females for the other four behaviors were found among Marine Corps Reservists and Air National Guard personnel. In particular, the prevalence of eating in secret for Marine Corps Reserve females was more than five times that of their male counterparts (11.5% vs. 1.8%). For the Air National Guard, females were almost four times more likely than males to eat in secret; about 8% of females reported that they ate in secret compared with only 2% of males.

Table 18B portrays similar information for Active-Duty personnel. Over half of Active-Duty personnel (59.6%) reported that they were satisfied with their eating patterns, and almost half (48.2%) indicated they had tried to lose weight in the previous year. Similar but smaller percentages of Active-Duty than Reserve/Guard personnel reported that they changed their diet for medical reasons. One notable difference between the Active-Duty personnel and their Reserve/Guard counterparts appeared in estimates for the impact of food and diet on health. Over half of Active-Duty personnel (56.1%) stated that they felt food and diet to be important in terms of their health. In contrast, as stated earlier, only about 33% of Reserve/Guard personnel indicated the same. In addition, unlike in the Reserve/Guard population, responses about the impact of food and diet on health varied greatly across the

**Table 18A Dietary Behaviors and Attitudes Among Reserve/Guard Personnel**

Behaviors and Attitudes/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Have Tried to Lose Weight in Past Year</b>							
Females	62.8*	65.5*	66.9*	70.8*	63.5	72.2*	65.4*
Males	51.3*	44.6*	52.7*	42.4*	56.3	50.6*	48.3*
Total	54.2	46.8	55.4	43.6	57.8	54.1	51.0
<b>Have Changed Diet Because of Medical Conditions</b>							
Females	15.8	10.3	13.3*	10.6*	12.7	17.6*	13.8*
Males	11.0	9.9	8.0*	4.8*	9.2	10.5*	9.7*
Total	12.2	9.9	9.0	5.0	9.9	11.7	10.3
<b>Satisfied with Eating Patterns</b>							
Females	52.9*	51.5*	54.1*	46.5*	48.9*	50.8	51.9*
Males	65.4*	69.7*	61.3*	56.7*	66.4*	58.2	65.7*
Total	62.4	67.8	60.0	56.3	62.8	57.0	63.5
<b>Eat in Secret</b>							
Females	9.3*	6.7	7.9	11.5*	8.7	7.6*	8.2*
Males	3.9*	3.8	5.1	1.8*	4.2	2.1*	3.6*
Total	5.2	4.1	5.6	2.2	5.1	3.0	4.3
<b>Feel Diet or Food Choices Are Important in Terms of Health</b>							
Females	27.5	38.6	25.9	24.4	24.4	20.2*	29.1
Males	29.9	38.8	27.6	28.7	25.1	32.3*	33.5
Total	29.3	38.7	27.2	28.5	25.0	30.4	32.8

Note: Table entries are percentages. Standard errors are shown in Table 18ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 18B Dietary Behaviors and Attitudes Among Active-Duty Personnel**

Behaviors and Attitudes/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Have Tried to Lose Weight in Past Year</b>					
Females	65.2*	66.1*	64.1*	74.9*	68.6*
Males	44.3*	40.7*	37.1*	54.5*	44.9*
Total	47.3	44.1	38.7	58.2	48.2
<b>Have Changed Diet Because of Medical Conditions</b>					
Females	20.5*	17.8*	19.9*	12.8*	17.2*
Males	8.8*	10.4*	6.8*	6.3*	8.4*
Total	10.5	11.4	7.6	7.5	9.6
<b>Satisfied with Eating Patterns</b>					
Females	45.2*	50.1*	49.9*	52.5	49.2*
Males	62.6*	60.9*	61.6*	60.0	61.4*
Total	60.1	59.5	60.9	58.6	59.6
<b>Eat in Secret</b>					
Females	9.2*	11.5*	8.9	9.4*	9.8*
Males	3.6*	4.8*	7.0	3.3*	4.3*
Total	4.4	5.7	7.1	4.4	5.1
<b>Feel Diet or Food Choices Are Important in Terms of Health</b>					
Females	28.8*	91.0*	90.7*	30.1	48.2*
Males	40.7*	87.1*	82.5*	33.8	57.5*
Total	38.9	87.6	83.0	33.1	56.1

Note: Table entries are percentages. Standard errors are shown in Table 18BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

Active-Duty Services. Estimates for Navy and Marine Corps personnel were similar and much higher than those of Army and Air Force personnel (87.6% and 83.0%, respectively, vs. 38.9% and 33.1%). In fact, Navy personnel were about 2.5 times more likely than Air Force personnel to indicate that food and diet were important to their health.

For all five behaviors/attitudes shown in Table 18B, overall responses for males differed significantly from females. This pattern differs slightly from that of Reserve/Guard personnel as estimates for males and females for attitudes about the impact of diet and food on health were not significantly different for that population. Among Active-Duty personnel, males (57.5%) were significantly more likely than females (48.2%) to indicate that diet and food were important to their health. Data for the remaining four behaviors were similar to those of Reserve/Guard personnel. Females were significantly more likely to have tried to lose weight, to have changed their diet for medical reasons, and to have eaten in secret, and males were significantly more likely to report being satisfied with their eating patterns. Further, estimates for females for changing their diet and eating in secret were more than double that of their male counterparts (17.2% vs. 8.4% and 9.8% vs. 4.3%, respectively).

conditions. The estimate for changing the diet due to medical reasons among Marine Corps females was almost three times that of their male counterparts (19.9% vs. 6.8%). Among Army, Navy, and Marine Corps personnel, a significantly greater proportion of males indicated that they were satisfied with their eating patterns. Females in the Army, Navy, and Air Force were significantly more likely to state that they ate in secret. These patterns of significance were similar to those of the Reserve/Guard components.

The Active-Duty Services showed some interesting patterns for attitudes about diet and food affecting health. Unlike Reserve/Guard personnel, estimates were significantly different among males and females for three of the four Active-Duty Services. Moreover, although patterns of responses for males and females differed, the direction of influence varied. Among Army personnel, significantly more males than females said that food and diet were important for health (40.7% vs. 28.8%). This pattern is similar to that of the overall Active-Duty population for this attitude. In the Navy and Marine Corps, however, significantly more females than males reported that food and diet were important to their health (91.0% vs. 87.1% and 90.7% vs. 82.5%, respectively).

#### 4.4 Factors Considered Important in Purchasing Food

Estimates of these behaviors/attitudes by Active-Duty Service showed many of the same significant sex discrepancies noted for Reserve/Guard personnel. In all four Active-Duty Services, significantly more females than males reported having tried to lose weight and having changed their diet due to medical

Table 19A presents information for the Reserve/Guard population for a variety of factors that are often important when purchasing food. A very high percentage of personnel (78.3%) indicated that taste, dislikes, or enjoyment was an important factor

**Table 19A Factors Considered Important in Purchasing Food Among Reserve/Guard Personnel**

Factors/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Health Benefits/Value</b>							
Females	43.6	44.1	54.4*	57.6*	60.1*	51.6*	48.0*
Males	45.8	36.3	42.1*	38.0*	47.4*	39.9*	40.2*
Total	45.3	37.1	44.5	38.9	50.1	41.8	41.4
<b>Price, Cost</b>							
Females	53.5	52.0	56.3*	57.3	47.3	49.7*	52.3
Males	50.4	51.7	46.9*	52.4	47.8	39.8*	49.3
Total	51.1	51.8	48.7	52.6	47.7	41.4	49.7
<b>Taste/Likes or Dislikes, Eating Enjoyment</b>							
Females	84.5*	85.1*	83.4	77.9	86.7*	85.1*	84.8*
Males	78.2*	75.5*	78.9	81.4	76.3*	78.0*	77.1*
Total	79.7	76.5	79.8	81.3	78.5	79.1	78.3
<b>Convenience, Ease of Preparation</b>							
Females	56.4*	51.7	51.7	52.8	58.0	58.1*	54.9*
Males	45.2*	43.3	45.4	49.8	47.0	39.0*	44.0*
Total	47.9	44.2	46.6	49.9	49.2	42.1	45.7
<b>Calories</b>							
Females	36.0*	29.0	39.1*	38.4*	35.5	41.6*	35.1*
Males	26.4*	21.7	22.5*	16.8*	25.2	16.7*	22.1*
Total	28.7	22.5	25.6	17.7	27.3	20.7	24.1

Note: Table entries are percentages. Important is defined as "very important" or "extremely important" when purchasing foods. Standard errors are shown in Table 19ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

when purchasing food. The least important factor affecting food purchase was calories; only 24% of Reserve/Guard personnel indicated that the caloric content of food influenced them when shopping. For all factors except price/cost, significantly more females than males reported that each factor was important in their food purchasing. The same pattern held true for many of the Reserve/Guard components. In addition, for the Naval Reserve and Air National Guard, females were significantly more likely than males to indicate that price/cost was a concern when buying food (56.3% vs. 46.9% and 49.7% vs. 39.8%, respectively). Notably, the greatest significant discrepancy between females and males occurred among Air National Guard personnel with regard to calories; females were about 2.5 times more likely than males to report that calories were an important consideration when buying food.

Table 19B displays similar information about food purchasing for Active-Duty personnel. Results for the overall Active-Duty population are similar to those of the Reserve/Guard. Considering taste, dislikes, and enjoyment as an important factor in food purchases was common among Active-Duty personnel; approximately 78% of personnel responded that this factor influenced their food purchasing. However, calories were reported as being important by only about 26% of all Active-Duty personnel. Moreover, with the exception of price/cost, females differed significantly from males; a significantly higher proportion of females than males reported that they felt health benefits, taste, convenience, and calories were important considerations in food purchase. Across all Active-Duty Services except the Marine

Corps and for all factors except price, similar findings emerged. For example, in the Army, Navy, and Air Force, significantly more females than males reported that they considered the health benefits of food when purchasing it (46.8% vs. 33.5%, 49.7% vs. 40.6%, and 51.0% vs. 36.5%, respectively). These patterns are similar to those in the Reserve/Guard population. Notably, estimates for price/cost by Active-Duty Service differ from that of Reserve/Guard personnel and from the pattern of responses for all other factors. Among Navy personnel, a significantly higher proportion of males than females indicated that cost was an important consideration (58.9% vs. 54.0%).

#### 4.5 Hours of Sleep on an Average Night

Table 20A depicts hours of sleep obtained on an average night for Reserve/Guard personnel. In the overall Reserve/Guard population, 5 to 6 hours of sleep and 7 to 8 hours of sleep were most commonly reported; the proportions of personnel reporting each of these amounts of sleep were roughly equivalent (45.9% for 5 to 6 hours and 46.3% for 7 to 8 hours). Very small percentages of individuals reported receiving fewer than 5 hours of sleep or 9 hours or more of sleep. Notably, hours of sleep reported by males and females were not significantly different for any of the categories. A few sex differences emerged within the Reserve/Guard components. Specifically, among the Marine Corps Reserve, a significantly greater proportion of males than females reported they had received fewer than 5 hours of sleep. Indeed, the percentage of males was about seven times that of females (5.6% vs. 0.8%). Conversely, in the Air National Guard, females were

**Table 19B Factors Considered Important in Purchasing Food Among Active-Duty Personnel**

Factors/Sex	Army	Navy	Marine Corps	Air Force	Total	Active-Duty Personnel
<b>Health Benefits/ Nutritional Value</b>						
Females	46.8*	49.7*	42.8	51.0*	48.8*	
Males	33.5*	40.6*	37.7	36.5*	36.8*	
Total	35.4	41.8	38.0	39.2	38.5	
<b>Price, Cost</b>						
Females	55.1	54.0*	58.6	48.8	52.9	
Males	51.3	58.9*	55.0	48.8	53.2	
Total	51.8	58.2	55.2	48.8	53.2	
<b>Taste/Likes or Dislikes, Eating Enjoyment</b>						
Females	80.7	77.3*	73.9	84.1	80.7*	
Males	78.9	72.3*	70.7	84.2	77.3*	
Total	79.2	73.0	70.9	84.2	77.8	
<b>Convenience, Ease of Preparation</b>						
Females	55.8*	53.3*	50.2	56.1*	55.0*	
Males	45.5*	42.4*	45.8	45.9*	44.8*	
Total	47.0	43.8	46.0	47.7	46.2	
<b>Calories</b>						
Females	34.9*	37.2*	33.1	35.1*	35.4*	
Males	23.7*	23.9*	28.5	21.8*	23.9*	
Total	25.4	25.6	28.7	24.2	25.6	

Note: Table entries are percentages. Important is defined as "very important" or "extremely important" when purchasing foods. Standard errors are shown in Table 19BSE in Appendix D.

\*Sex differences are significant at  $p < 0.05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 20A Hours of Sleep on an Average Night Among Reserve/Guard Personnel**

Hours/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Less Than 5 Hours</b>								
Females	6.0	3.9	4.4	0.8*	7.6	8.2*	5.6	
Males	6.6	2.8	4.4	5.6*	3.3	2.5*	3.9	
Total	6.5	2.9	4.4	5.4	4.2	3.4	4.2	
<b>5 to 6 Hours</b>								
Females	46.1	43.8	46.4	42.6	48.6	42.8	45.3	
Males	46.8	44.6	46.7	49.9	44.5	49.0	46.0	
Total	46.6	44.5	46.6	49.6	45.4	48.0	45.9	
<b>7 to 8 Hours</b>								
Females	44.8	48.4	46.4	51.0*	38.1	47.4	45.7	
Males	44.2	47.5	47.5	38.7*	49.8	46.5	46.4	
Total	44.3	47.6	47.3	39.2	47.3	46.7	46.3	
<b>9 Hours or More</b>								
Females	3.1	3.9	2.7	5.6	5.7	1.5	3.4	
Males	2.4	5.1	1.5	5.8	2.4	2.0	3.7	
Total	2.6	5.0	1.7	5.8	3.1	1.9	3.6	

Note: Table entries are percentages. Standard errors are shown in Table 20ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

significantly more likely than males to indicate that they had received fewer than 5 hours of sleep. Females in the Marine Corps Reserve also were significantly more likely than their male counterparts to report having slept for 7 to 8 hours.

Estimates for the Active-Duty population differ somewhat from those in the Reserve/Guard population. As can be seen in Table 20B, the majority of Active-Duty personnel reported that they received on average 5 to 6 hours of sleep (51.9%). Sleeping 7 to 8 hours was less prevalent; about 39% of personnel reported they slept that amount on an average night. Unlike the Reserve/Guard population, there were some significant differences between males and females in the total Active-Duty population. A significantly higher proportion of males reported receiving only 5 to 6 hours of sleep (52.7% vs. 47.5%), while females were significantly more likely than males to report sleeping 9 hours or more (4.0% vs. 2.3%). Estimates for the Army and Navy show this same pattern. Among Navy personnel, females were more than two times more likely than males to report sleeping 9 hours or more (4.0% vs. 1.8%). In addition, though the proportion of males and females in the overall Active-Duty population who reported they slept fewer than 5 hours did not differ significantly, in the Marine Corps males were significantly more likely than females to report receiving fewer than 5 hours of sleep (7.3% vs. 3.3%).

#### 4.6 Alcohol Use

In this section, we describe alcohol use, noting the differences between males and females, the individual

Reserve/Guard components and Active-Duty Services, and between Reserve/Guard and Active-Duty personnel where appropriate. Measures of alcohol use include the number of days that alcohol was consumed in the past 30 days and the number of alcoholic drinks consumed on a typical day in the past 30 days.

We use the term “binge drinking” to identify the drinking of excessive amounts of alcohol during a typical drinking occasion.

The definition of binge drinking differs by sex. For males, consuming five drinks or more per typical occasion is considered binge drinking; for females, the threshold is four drinks or more (Wechsler et al., 1995). (A discussion of the alcohol use measures also appears in Chapter 2.)

As shown in Table 21A, estimates for the total Reserve/Guard component reveal that most personnel reported that they did not drink alcohol or drank it on 1 to 3 days in the past 30 days, while few reported nearly daily use of alcohol. Approximately 36% of the Reserve/Guard reported drinking on 1 to 3 days, and nearly 30% reported that they did not drink in the past 30 days. About 3% reported drinking on 28 to 30 days and 4% reported drinking on 20 to 27 days in the past 30 days.

Generally, males in the Reserve/Guard reported drinking alcohol on more days in the past 30 days than females. Males were significantly more likely than females to report drinking alcohol on 28 to 30 days (3.2% vs. 1.8%), 11 to 19 days (9.9% vs. 5.8%), and 4 to 10 days (19.2% vs. 13.6%) in the past 30 days. Furthermore, females were significantly more likely than males to report drinking on 1 to 3 days (41.2% vs. 35.2%) or that they never drank

**Table 20B Hours of Sleep on an Average Night Among Active-Duty Personnel**

Hours/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Less Than 5 Hours</b>					
Females	11.6	4.3	3.3*	6.5	7.6
Males	9.7	4.6	7.3*	3.8	6.5
Total	10.0	4.6	7.1	4.3	6.7
<b>5 to 6 Hours</b>					
Females	51.2*	46.6*	50.2	43.8	47.5*
Males	58.5*	52.1*	49.5	47.0	52.7*
Total	57.4	51.3	49.6	46.4	51.9
<b>7 to 8 Hours</b>					
Females	33.9	45.2	42.1	45.1	41.0
Males	30.0	41.5	39.4	46.3	38.5
Total	30.5	42.0	39.5	46.1	38.8
<b>9 Hours or More</b>					
Females	3.4	4.0*	4.4	4.6	4.0*
Males	1.8	1.8*	3.8	2.8	2.3*
Total	2.1	2.1	3.8	3.1	2.6

Note: Table entries are percentages. Standard errors are shown in Table 20BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 21A Alcohol Use Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Days Drank Alcohol in Past 30 Days</b>							
<b>Females</b>							
28 to 30 days	1.8	1.7	2.1*	1.2*	1.3	2.2	1.8*
20 to 27 days	3.3	1.7	1.9*	2.2	3.4	5.0	2.9
11 to 19 days	5.6*	6.4	5.3*	8.8	5.8*	5.0*	5.8*
4 to 10 days	11.2*	11.7	14.1*	18.3*	17.7	19.9	13.6*
1 to 3 days	45.5*	40.0	39.3	43.2	35.5	38.4	41.2*
0 days	32.6	38.5	37.3*	26.3*	36.3	29.5*	34.7*
<b>Males</b>							
28 to 30 days	1.9	3.0	4.6*	3.8*	4.8	4.0	3.2*
20 to 27 days	2.9	4.2	4.3*	5.1	5.8	6.0	4.3
11 to 19 days	11.3*	8.0	11.0*	10.5	13.3*	11.0*	9.9*
4 to 10 days	18.9*	17.3	22.5*	26.1*	18.0	21.9	19.2*
1 to 3 days	35.1*	35.9	33.7	36.0	32.2	35.5	35.2*
0 days	30.0	31.6	23.9*	18.4*	25.9	21.6*	28.2*
<b>Total</b>							
28 to 30 days	1.9	2.9	4.1	3.7	4.1	3.7	3.0
20 to 27 days	3.0	3.9	3.8	5.0	5.3	5.8	4.1
11 to 19 days	9.9	7.8	10.0	10.4	11.7	10.0	9.2
4 to 10 days	17.0	16.7	21.0	25.8	17.9	21.6	18.3
1 to 3 days	37.6	36.3	34.8	36.3	32.9	36.0	36.1
0 days	30.6	32.3	26.4	18.8	28.1	22.9	29.2

See notes at end of table.

(continued)

**Table 21A (continued)**

Measure/Sex/Level	Army Reserve	Army National Guard	National Guard	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Number of Drinks on a Typical Day<sup>a</sup></b>							
<b>Females</b>							
5 drinks or more	4.6*	6.3*	3.3*	6.2*	1.9*	2.9*	4.4*
4 drinks	5.1	5.3	2.2*	5.7	6.3	4.2*	4.9*
3 drinks	11.3	8.4	5.9*	12.9	7.0	10.2	9.3*
2 drinks	20.1	17.7	21.5	24.9	16.0	24.7	19.8
1 drink	25.4	24.8*	28.9*	23.3*	30.7	27.8*	26.5*
0 drinks	33.6	37.5	38.2*	27.0*	38.1	30.2*	35.2*
<b>Males</b>							
5 drinks or more	9.1*	14.0*	9.0*	22.7*	7.0*	9.2*	11.9*
4 drinks	4.5	9.9	7.4*	9.9	9.2	9.2*	8.5*
3 drinks	11.8	14.0	9.7*	13.7	10.4	13.6	12.8*
2 drinks	21.6	15.6	26.7	20.5	21.2	26.1	19.8
1 drink	22.3	14.2*	22.7*	14.0*	25.1	19.8*	18.2*
0 drinks	30.7	32.2	24.5*	19.3*	27.1	22.1*	28.8*
<b>Total</b>							
5 drinks or more	8.0	13.2	8.0	21.9	5.9	8.2	10.7
4 drinks	4.7	9.4	6.4	9.7	8.6	8.4	7.9
3 drinks	11.7	13.5	9.0	13.7	9.7	13.0	12.3
2 drinks	21.2	15.8	25.7	20.7	20.1	25.9	19.8
1 drink	23.0	15.3	23.9	14.4	26.3	21.1	19.5
0 drinks	31.4	32.8	27.1	19.6	29.4	23.4	29.8

Note: Table entries are percentages. Standard errors are shown in Table 21ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

<sup>a</sup>The 1995 POWR Assessment asked, "During the past 30 days, how much alcohol did you drink on a typical day?" and the 1998 Total Force Assessment asked, "Think about the days when you drank in the past 30 days. How many drinks did you usually drink on a typical day?"

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

(34.7% vs. 28.2%) in the past 30 days. The most notable example of this pattern among the Reserve/Guard components appeared in the Naval Reserve. In comparison to Naval Reserve females, Naval Reserve males were significantly more likely to report drinking alcohol for all categories except for 1 to 3 days.

Table 21A also presents estimates for the number of alcoholic drinks consumed on a typical day in the past month among Reserve/Guard personnel. Overall, Reserve/Guard personnel reported consuming very few alcoholic drinks on a typical day in the past 30 days. Nearly 30% reported having no drinks, and 40% reported having one or two drinks on a typical day. About 12% reported having three drinks, less than 8% reported having four drinks, and 11% reported having five drinks or more on a typical day in the past 30 days. Notably, about 9% of Reserve/Guard females and 12% of Reserve/Guard males would be considered binge drinkers. Reserve/Guard females were significantly more likely than males to report having no alcoholic drinks or one alcoholic drink on a typical day, and females were significantly less likely than males to report having three, four, or five or more alcoholic drinks on a typical day. Examining the Reserve/Guard components individually revealed that a much higher percentage of Marine Corps Reserve personnel reported having three drinks (13.7%), four drinks (9.7%), and five drinks or more (21.9%) on a typical day in the past 30 days compared to the other Reserve/Guard components and to the total Reserve/Guard.

reported that they did not drink alcohol in the past 30 days (25.5%) or that they drank it on 1 to 3 days (34.6%) or 4 to 10 days (24.5%). Smaller percentages of personnel reported drinking on 11 to 19 days (9.2%), 20 to 27 days (3.5%), or 28 to 30 days (2.8%).

These results differ slightly from the overall Reserve/Guard population. For example, Active-Duty personnel were more likely than their Reserve/Guard counterparts to report drinking alcohol on 4 to 10 days in the past 30 days (24.5% vs. 18.3%), while they were less likely to report that they never drank (25.5% vs. 29.2%).

Active-Duty females were significantly more likely than males to report drinking alcohol on fewer days in the past 30 days and were significantly less likely to report drinking it on most categories of days in the past 30 days. This held true for each category except for 1 to 3 days, where no differences were detected. Further, this pattern held true for males and females in each of the Active-Duty Services, although not all differences were significant.

Data on the number of alcoholic drinks consumed on a typical day in the past 30 days among Active-Duty personnel showed that, overall, most Active-Duty personnel reported having no drinks (27.3%), one drink (22.3%), or two drinks (17.9%) on a typical day in the past 30 days, while fewer Active-Duty personnel reported having three drinks (11.4%), four drinks (5.8%), or five or more drinks (15.3%) on a typical day in the past 30 days.

Interestingly, about 13% of Active-Duty females and 16% of Active-Duty males met the criterion for binge drinking. Notably, Active-Duty personnel were more likely than Reserve/Guard

Table 21B displays the estimates for Active-Duty personnel for the two alcohol measures. Most of the Active-Duty personnel

**Table 21B Alcohol Use Among Active-Duty Personnel**

Measure/Sex/Level	Days Drank Alcohol in Past 30 Days	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Females</b>						
28 to 30 days	0.2*	1.0	0.4*	1.9	1.0*	1.0*
20 to 27 days	2.2	2.1*	0.8*	1.2	1.8*	1.8*
11 to 19 days	3.3*	4.6*	5.2	7.3	5.1*	5.1*
4 to 10 days	17.6*	17.0*	16.7*	23.7	19.5*	19.5*
1 to 3 days	35.2	40.8*	38.4	34.5	36.5	36.5
0 days	41.5*	34.5*	38.4*	31.4	36.1*	36.1*
<b>Males</b>						
28 to 30 days	4.6*	1.4	3.8*	2.4	3.1*	3.1*
20 to 27 days	4.7	3.3*	3.9*	2.9	3.8*	3.8*
11 to 19 days	9.7*	10.2*	9.0	10.2	9.9*	9.9*
4 to 10 days	25.4*	26.6*	27.5*	22.8	25.4*	25.4*
1 to 3 days	31.9	34.3*	39.5	34.5	34.2	34.2
0 days	23.8*	24.2*	16.3*	27.2	23.7*	23.7*
<b>Total</b>						
28 to 30 days	4.0	1.4	3.6	2.3	2.8	2.8
20 to 27 days	4.3	3.2	3.7	2.6	3.5	3.5
11 to 19 days	8.8	9.5	8.7	9.6	9.2	9.2
4 to 10 days	24.2	25.3	26.9	22.9	24.5	24.5
1 to 3 days	32.4	35.1	39.4	34.5	34.6	34.6
0 days	26.3	25.6	17.6	28.0	25.5	25.5

See notes at end of table.

(continued)

**Table 21B (continued)**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Number of Drinks on a Typical Day</b>					
<b>Females</b>					
5 drinks or more	7.4*	9.4*	12.7*	9.3	8.8*
4 drinks	4.4	3.0*	3.7	6.2	4.6
3 drinks	7.4*	7.1*	8.3	9.4	8.1*
2 drinks	15.4	12.7	9.8*	21.7	16.6
1 drink	22.3	29.7	22.8	20.7	23.7
0 drinks	43.0*	38.1*	42.7*	32.6	38.2*
<b>Males</b>					
5 drinks or more	15.5*	16.3*	27.6*	11.4	16.4*
4 drinks	7.8	4.8*	4.7	5.5	6.0
3 drinks	14.5*	9.3*	7.2	14.3	12.0*
2 drinks	20.3	14.0	15.2*	21.4	18.1
1 drink	17.2	28.1	25.2	20.2	22.1
0 drinks	24.7*	27.6*	20.0*	27.2	25.5*
<b>Total</b>					
5 drinks or more	14.3	15.4	26.8	11.0	15.3
4 drinks	7.3	4.5	4.6	5.6	5.8
3 drinks	13.4	9.0	7.3	13.4	11.4
2 drinks	19.6	13.8	14.8	21.5	17.9
1 drink	18.0	28.3	25.1	20.3	22.3
0 drinks	27.4	29.0	21.4	28.2	27.3

Note: Table entries are percentages. Standard errors are shown in Table 21BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

\*The 1995 POWR Assessment asked, "During the past 30 days, how much alcohol did you drink on a typical day?" and the 1998 Total Force Assessment asked, "Think about the days when you drank in the past 30 days. How many drinks did you usually drink on a typical day?"

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

personnel to report having five or more alcoholic drinks on a typical day in the past 30 days (15.3% vs. 10.7%). Active-Duty females were significantly more likely to report not drinking alcohol on a typical day (38.2%) compared to males (25.5%). Females also were significantly less likely to report having three drinks per typical day (8.1% vs. 12.0%) and five or more drinks per day (8.8% vs. 16.4%) in the past 30 days.

Each Active-Duty Service followed a pattern similar to that seen for the total Active-Duty in that males were drinking more alcoholic drinks on a typical day in the past 30 days than females were. Significant sex differences varied for the Active-Duty Services. For example, males in the Army were significantly more likely than females to report having five alcoholic drinks on a typical occasion (15.5% vs. 7.4%). Males in the Navy were significantly more likely than females to report having four or five alcoholic drinks on a typical occasion (4.8% vs. 3.0% for four drinks; 16.3% vs. 9.4% for five drinks).

#### 4.7 Cigarette Use and Exposure to Tobacco Smoke

Estimates on cigarette use and exposure to tobacco smoke at home and at work are presented among Reserve/Guard personnel in Table 22A and Active-Duty personnel in Table 22B. Military personnel defined as “current” smokers reported having smoked at least 100 cigarettes in their lifetime and having smoked in the past 30 days. Those defined as “heavy” smokers were current smokers who reported smoking at least one pack of cigarettes a day in the past 30 days. These tables also present estimates on personnel who

were not current smokers themselves but who reported that they were exposed to tobacco smoke for an hour or more per day at home, at work, or both at home and work. Moreover, estimates are presented on current smokers who reported that they were exposed to tobacco smoke for an hour or more per day at home, at work, and both at home and at work.

As shown in Table 22A, slightly more than one-quarter of the total Reserve/Guard were current cigarette smokers (26.6%) and 11% were heavy smokers. There were no significant differences between males and females in either the current or heavy smoking categories. Across the Reserve/Guard components, the totals for Army National Guard personnel had the highest prevalence of current and heavy smoking, while the Air Force Reserve had the lowest prevalence. Males in the Army National Guard and Marine Corps Reserve were significantly more likely than females to be current smokers. Females in the Army Reserve, however, were more likely than males to be current smokers (28.7% vs. 21.0%). The only significant sex difference for heavy smokers was detected among Marine Corps Reserve personnel with males more likely to be heavy smokers (9.9% vs. 3.7%).

Table 22A also displays the percentage of Reserve/Guard personnel who were not smokers and who reported being exposed to tobacco smoke at home, at work, and both at home and at work. About 21% of the nonsmoking Reserve/Guard personnel reported being exposed only at work, and nearly 9% reported being exposed only at home. Approximately one-quarter (26.6%) reported being exposed to tobacco smoke both at home and at work.

**Table 22A Cigarette Use and Exposure to Tobacco Smoke Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	National Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Cigarette Use</b>								
<b>Females</b>								
Current smoker <sup>a</sup>	28.7*	23.0*	26.1	18.0*	18.1	24.3	24.9	
Heavy smoker <sup>b</sup>	9.0	13.4	7.5	3.7*	8.9	9.6	10.1	
<b>Males</b>								
Current smoker <sup>a</sup>	21.0*	33.2*	21.6	27.6*	19.6	22.6	27.0	
Heavy smoker <sup>b</sup>	7.8	14.4	9.5	9.9*	8.2	10.5	11.4	
<b>Total</b>	<b>22.9</b>	<b>32.1</b>	<b>22.5</b>	<b>27.1</b>	<b>19.3</b>	<b>22.8</b>	<b>26.6</b>	
Current smoker <sup>a</sup>	22.9	32.1	22.5	27.1	19.3	22.8	26.6	
Heavy smoker <sup>b</sup>	8.1	14.3	9.1	9.7	8.4	10.4	11.2	
<b>Exposure to Tobacco Smoke Among Nonsmokers</b>								
<b>Females</b>								
Exposed at work	15.9*	21.2	12.1	16.1	17.4	13.4	16.8*	
Exposed at home	13.9	16.6	7.7	14.4	11.7	5.7	12.6*	
Exposed at work and at home	26.6	33.1	18.3	26.0	24.8	17.8	26.2	
<b>Males</b>								
Exposed at work	24.4*	26.0	17.1	22.5	14.4	16.0	22.3*	
Exposed at home	8.1	10.3	5.0	11.9	4.0	5.2	8.2*	
Exposed at work and at home	28.1	31.5	19.5	29.5	17.0	19.7	26.7	
<b>Total</b>	<b>22.5</b>	<b>25.5</b>	<b>16.2</b>	<b>22.2</b>	<b>15.1</b>	<b>15.6</b>	<b>21.4</b>	
Exposed at work	22.5	25.5	16.2	22.2	15.1	15.6	21.4	
Exposed at home	9.4	11.0	5.5	12.0	5.7	5.3	8.9	
Exposed at work and at home	27.8	31.7	19.3	29.3	18.7	19.4	26.6	
<b>Exposure to Tobacco Smoke Among Smokers</b>								
<b>Females</b>								
Exposed at work	44.6	42.2	36.3*	38.2	38.4	38.3	41.6*	
Exposed at home	68.1	58.2	62.4	55.6	67.7	59.3	63.6	
Exposed at work and at home	73.1	63.5	68.1	74.7	70.4	64.3	68.7	
<b>Males</b>								
Exposed at work	55.0	56.1	58.2*	52.8	45.6	54.9	55.1*	
Exposed at home	54.9	53.9	58.6	53.7	57.9	53.9	54.7	
Exposed at work and at home	70.6	67.4	70.7	67.1	59.0	66.9	67.6	
<b>Total</b>	<b>51.9</b>	<b>55.0</b>	<b>53.3</b>	<b>52.3</b>	<b>44.2</b>	<b>52.1</b>	<b>53.2</b>	
Exposed at work	51.9	55.0	53.3	52.3	44.2	52.1	53.2	
Exposed at home	59.1	54.3	59.4	53.8	59.9	54.9	56.0	
Exposed at work and at home	71.4	67.1	70.1	67.3	61.2	66.5	67.8	

Note: Table entries are percentages. Standard errors are shown in Table 22ASE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p<.05$ .<sup>b</sup>Current smoker is defined as smoking at least 100 cigarettes during one's lifetime and smoking in the past 30 days.<sup>b</sup>Heavy smoker is defined as current smokers who smoke one or more packs of cigarettes per day.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

Female nonsmoking personnel were significantly less likely than males to be exposed at work (16.8% vs. 22.3%), while they were significantly more likely to be exposed at home (12.6% vs. 8.2%). Female nonsmokers in the Army Reserve were also significantly less likely to be exposed at work. For nonsmoking Reserve/Guard personnel reporting exposure at both home and work, female and male Reserve/Guard personnel had similar percentages.

Among the total Reserve/Guard personnel who smoked, more than half reported being exposed to tobacco smoke at work (53.2%) and at home (56.0%), and more than two-thirds reported being exposed both at work and at home (67.8%). Significantly fewer female than male Reserve/Guard personnel who smoked reported being exposed to tobacco smoke at work (41.6% vs. 55.1%). In terms of comparisons among the Reserve/Guard components, the only significant sex difference was found among females in the Naval Reserve who were significantly less likely than males to report exposure to tobacco smoke at work (36.3% vs. 58.2%).

Overall, the Marine Corps had the highest prevalence of current and heavy cigarette smokers, while the Air Force had the lowest prevalence.

Analysis of exposure to tobacco smoke among nonsmoking Active-Duty personnel revealed that nearly 20% were exposed at work and 12% were exposed at home. More than one-quarter (26.7%) of nonsmokers were exposed both at home and at work. The Army had the highest prevalence of personnel exposed at work (26.9%) and both at work and at home (34.2%), while the Air Force had the lowest estimates in all three exposure categories. The Marine Corps had the highest percentage of personnel exposed at home (19.6%), more than double the percentage of Air Force personnel in this exposure category.

Compared to their male counterparts, nonsmoking Active-Duty female personnel reported significantly lower exposure to tobacco smoke at work (13.6% vs. 19.5%) and both at work and at home (22.8% vs. 27.3%). The same significant sex difference for exposure at work was found in the Army (19.9% females vs. 28.1% males) and Air Force (6.5% females vs. 13.2% males).

Table 22B shows that, among Active-Duty personnel, roughly 30% were current cigarette smokers and about 12% were heavy smokers. Active-Duty personnel had similar rates of current and heavy cigarette smoking compared to Reserve/Guard personnel. Active-Duty females were significantly less likely than males to be current smokers (24.7% vs. 29.6%) or heavy smokers (7.3% vs. 12.6%). Each Active-Duty Service except the Air Force showed a similar pattern in terms of significant sex differences.

Among smokers in Active-Duty Services, about 45% reported exposure at work, nearly 64% reported being exposed at home, and more than 70% reported being exposed both at work and at home. Of the Active-Duty Services, the Marine Corps had the highest estimates in each exposure category, and the Air Force had the lowest estimates. In addition, Active-Duty females who smoked were significantly more likely than males to report

**Table 22B Cigarette Use and Exposure to Tobacco Smoke Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Cigarette Use</b>					
<b>Females</b>					
Current smoker <sup>a</sup>	23.1*	26.4*	23.9*	25.2	24.7*
Heavy smoker <sup>b</sup>	6.7*	9.0*	6.0*	6.8	7.3*
<b>Males</b>					
Current smoker <sup>a</sup>	30.5*	31.5*	34.7*	23.4	29.6*
Heavy smoker <sup>b</sup>	14.7*	13.8*	14.7*	7.5	12.6*
<b>Total</b>	29.4	30.8	34.1	23.7	28.9
Current smoker <sup>a</sup>	13.5	13.2	14.2	7.3	11.9
Heavy smoker <sup>b</sup>					
<b>Exposure to Tobacco Smoke Among Nonsmokers</b>					
<b>Females</b>					
Exposed at work	19.9*	12.5	22.2	6.5*	13.6*
Exposed at home	10.2	14.6	17.6	9.8	11.6
Exposed at work and at home	27.7	23.3	34.3	15.6	22.8*
<b>Males</b>					
Exposed at work	28.1*	13.5	22.9	13.2*	19.5*
Exposed at home	11.6	13.9	19.7	8.3	12.3
Exposed at work and at home	35.4	23.5	32.0	19.1	27.3*
<b>Total</b>	26.9	13.3	22.8	12.0	18.6
Exposed at work	11.4	14.0	19.6	8.6	12.2
Exposed at home	34.2	23.5	32.1	18.5	26.7
<b>Exposure to Tobacco Smoke Among Smokers</b>					
<b>Females</b>					
Exposed at work	43.9	32.6	41.5	56.6*	45.1
Exposed at home	68.8	69.5*	68.2	73.7*	70.7*
Exposed at work and at home	76.5	73.7	74.9	75.9*	75.4
<b>Males</b>					
Exposed at work	50.6	41.1	51.7	36.4*	45.2
Exposed at home	65.1	64.0*	70.0	49.6*	62.5*
Exposed at work and at home	76.2	71.0	77.7	57.2*	71.1
<b>Total</b>	49.9	40.2	51.3	40.3	45.2
Exposed at work	65.5	64.6	69.9	54.4	63.5
Exposed at home	76.2	71.3	77.6	60.8	71.6

Note: Table entries are percentages. Standard errors are shown in Table 22BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

<sup>a</sup>Current smoker is defined as smoking at least 100 cigarettes during one's lifetime and smoking in the past 30 days.

<sup>b</sup>Heavy smoker is defined as current smokers who smoke one or more packs of cigarettes per day.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

exposure to tobacco smoke at home (70.7% vs. 62.5%). Reserve/Guard and Active-Duty personnel who smoked reported being exposed to tobacco smoke at home, at work, and both at home and at work more than twice as much as nonsmokers.

#### 4.8 Availability and Use of Protective Gear

In this section, we discuss the availability and use of protective gear by Reserve/Guard and Active-Duty personnel in their military job. These tables present the estimates of military personnel who reported that protective gear, such as gloves, respirator, filter, mask, and ear plugs, was available to use either “always,” “sometimes,” or “never” in their military job. Personnel also were asked how regularly they used protective gear when they needed to in the course of their military job, using the same response options of “always,” “sometimes,” or “never.” For questions on the availability and use of protective gear, a separate response category shows the percentage of personnel who reported that they did not need to use protective gear in their military job because they did not come in contact with harmful substances.

As shown in Table 23A, approximately 19% of the total Reserve/Guard reported that they did not need to use protective gear for their military job. Of the remaining personnel, a majority reported that protective gear was “always” available (63.7%) for use. Approximately one-third (32.9%) of the total Reserve/Guard who needed protective gear reported it was “sometimes” available, while only 3% reported that it was “never” available. Across the individual Reserve/Guard components, more Army Reserve

personnel reported that they did not need to use protective gear (28.1%), followed by Naval Reserve personnel (23.1%).

Female Reserve/Guard personnel were nearly twice as likely as males to report that they did not need to use protective gear (32.2% vs. 16.7%). Females also were significantly more likely than males to report that gear was “always” available (68.5% vs. 63.0%) and significantly less likely to report that protective gear was “sometimes” available (27.1% vs. 33.7%). No significant differences were detected between female and male Reserve/Guard personnel who reported “never” having protective gear available. Although there was less relative need for protective gear among Naval Reserve personnel, Naval Reserve females were significantly more likely than their male counterparts to report that gear was “never” available (6.4% vs. 1.7%).

Overall, the rates for Reserve/Guard personnel who reported using protective gear were nearly the same as the rates for its availability. Approximately 22% reported that they did not encounter harmful substances and therefore did not use protective gear. Of those who had a need for protective gear, about 57% reported “always” using protective gear. Approximately 39% reported “sometimes” using protective gear, while few (3.9%) reported that they “never” used protective gear.

Of Reserve/Guard personnel needing protective gear, females were significantly more likely than their male counterparts to report using protective gear “always” (71.2% vs. 55.3%) and significantly less likely to report using it “sometimes” (24.0% vs.

**Table 23A Availability and Use of Protective Gear in Current Military Job Among Reserve/Guard Personnel**

Availability and Use/Sex/Frequency		Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Availability of Protective Gear</b>								
<b>Females</b>								
Always <sup>a</sup>	64.9*	68.4	65.0	60.7	71.0	78.9	68.5*	
Sometimes <sup>a</sup>	29.6	27.3	28.6*	31.4*	27.1	19.2	27.1*	
Never <sup>a</sup>	5.6	4.3	6.4*	7.9	2.0	1.9	4.4	
Don't need to use protective gear <sup>b</sup>	37.0*	26.3*	34.1*	45.7*	35.9*	25.3*	32.2*	
<b>Males</b>								
Always <sup>a</sup>	54.3*	60.1	59.3	54.4	81.0	79.1	63.0*	
Sometimes <sup>a</sup>	38.6	36.9	39.0*	42.6*	18.2	19.0	33.7*	
Never <sup>a</sup>	7.1	3.0	1.7*	3.1	0.8	1.9	3.3	
Don't need to use protective gear <sup>b</sup>	25.1*	14.3*	20.6*	19.2*	15.4*	8.4*	16.7*	
<b>Total</b>								
Always <sup>a</sup>	56.6	60.8	60.2	54.5	79.3	79.1	63.7	
Sometimes <sup>a</sup>	36.6	36.1	37.3	42.2	19.7	19.0	32.9	
Never <sup>a</sup>	6.7	3.1	2.4	3.2	1.0	1.9	3.4	
Don't need to use protective gear <sup>b</sup>	28.1	15.5	23.1	20.4	19.7	11.1	19.1	
<b>Use of Protective Gear</b>								
<b>Females</b>								
Always <sup>a</sup>	68.8*	69.0*	72.5	60.0*	73.2	79.4*	71.2*	
Sometimes <sup>a</sup>	22.8*	28.9*	22.0*	32.6*	23.2	19.0*	24.0*	
Never <sup>a</sup>	8.4	2.1	5.5*	7.5	3.7	1.6	4.8	
Don't need to use protective gear <sup>b</sup>	39.9*	36.5*	36.6*	46.2*	35.6*	31.1*	37.0*	
<b>Males</b>								
Always <sup>a</sup>	52.1*	50.8*	65.4	46.1*	65.6	66.0*	55.3*	
Sometimes <sup>a</sup>	42.5*	44.7*	33.4*	49.3*	32.4	32.6*	41.0*	
Never <sup>a</sup>	5.4	4.5	1.2*	4.6	2.1	1.4	3.7	
Don't need to use protective gear <sup>b</sup>	29.5*	15.1*	21.1*	19.0*	20.0*	11.7*	18.7*	
<b>Total</b>								
Always <sup>a</sup>	55.7	52.3	66.5	46.5	66.9	67.7	57.3	
Sometimes <sup>a</sup>	38.2	43.5	31.6	48.8	30.7	30.9	38.8	
Never <sup>a</sup>	6.1	4.3	1.9	4.7	2.3	1.4	3.9	
Don't need to use protective gear <sup>b</sup>	32.1	17.3	24.0	20.1	23.3	14.8	21.6	

Note: Table entries are percentages. Standard errors are shown in Table 23ASE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .<sup>b</sup>This category excludes those who do not need to use protective gear.<sup>b</sup>This category is the percentage of personnel who report they do not need to use protective gear.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

41.0%). Among Reserve/Guard components, Army Reserve and Marine Corps Reserve personnel needing protective gear in their military job were less likely to report that they “always” used it. These Reserve/Guard components also had the highest percentage of personnel reporting that they “never” used protective gear. Air National Guard, Air Force Reserve, and Naval Reserve personnel were more likely to report that they “always” used protective gear.

For Active-Duty personnel, Table 23B reveals that approximately 20% reported that they did not need to use protective gear during their military job. Of those needing protective gear, about 68% reported that protective gear was “always” available. About 27% reported that gear was “never” “sometimes” available, and 5% reported that it was “never” available.

Similar to findings for Reserve/Guard components, more Active-Duty females than males reported that they did not need protective gear for their military job (36.6% vs. 17.8%). Of those needing protective gear, Active-Duty females and males reported about the same availability. Active-Duty females, however, were significantly more likely than Active-Duty males to report “never” having protective gear available (7.7% vs. 4.9%).

Estimates for the Navy and the Marine Corps were different from the other Active-Duty Services in terms of availability. First, these Active-Duty Services had the highest percentages of personnel reporting that gear was “always” available. For Navy personnel, fewer females than males reported that gear was

“always” available (77.8% vs. 83.1%), and more females reported that gear was “never” available (11.2% vs. 6.1%). The same pattern was seen in the Marine Corps, where fewer females than males reported that gear was “always” available (72.8% vs. 82.1%), and more females reported that it was “never” available (12.1% vs. 5.0%).

Although availability of protective gear was generally high, a lower percentage of personnel reported “always” using it. Of the Active-Duty personnel who reported that they need to use protective gear, about 52% reported that they “always” used it, and 43% reported that they “sometimes” used it. Less than 5% reported that they “never” used protective gear when they encounter harmful substances in their military job.

Of those needing protective gear, female Active-Duty personnel were significantly more likely than males to report that they “always” used it (57.4% vs. 51.6%). Male personnel were significantly more likely than females to report that they “sometimes” used protective gear (44.1% vs. 37.5%).

Among the Active-Duty Services, more Navy (60.5%) and Air Force (61.4%) personnel reported “always” using protective gear, and fewer reported “never” using it (2.7% and 3.2%, respectively). Conversely, fewer Army (41.6%) and Marine Corps (45.6%) personnel reported “always” using protective gear, and more reported “never” using it (6.7% and 4.0%, respectively).

**Table 23B Availability and Use of Protective Gear in Current Military Job Among Active-Duty Personnel**

Availability and Use/Sex/Frequency		Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Availability of Protective Gear</b>						
<b>Females</b>						
Always <sup>a</sup>	52.3	77.8*	72.8*	75.9	67.2	
Sometimes <sup>a</sup>	40.9	10.9	15.0	19.3	25.1	
Never <sup>a</sup>	6.8	11.2*	12.1*	4.8	7.7*	
Don't need to use protective gear <sup>b</sup>	30.9*	32.5*	39.1*	45.0*	36.6*	
<b>Males</b>						
Always <sup>a</sup>	47.5	83.1*	82.1*	74.4	68.4	
Sometimes <sup>a</sup>	47.1	10.8	13.0	22.6	26.7	
Never <sup>a</sup>	5.4	6.1*	5.0*	3.0	4.9*	
Don't need to use protective gear <sup>b</sup>	15.3*	20.1*	16.9*	19.1*	17.8*	
<b>Total</b>						
Always <sup>a</sup>	48.1	82.5	81.7	74.6	68.3	
Sometimes <sup>a</sup>	46.3	10.8	13.0	22.2	26.5	
Never <sup>a</sup>	5.6	6.7	5.3	3.2	5.5	
Don't need to use protective gear <sup>b</sup>	17.5	21.8	18.2	23.9	20.4	
<b>Use of Protective Gear</b>						
<b>Females</b>						
Always <sup>a</sup>	50.8*	61.0	45.3	64.6	57.4*	
Sometimes <sup>a</sup>	43.1*	34.5	48.0	31.3	37.5*	
Never <sup>a</sup>	6.1	4.4*	6.7*	4.1	5.1	
Don't need to use protective gear <sup>b</sup>	32.3*	37.8*	46.1*	44.5*	38.5*	
<b>Males</b>						
Always <sup>a</sup>	40.3*	60.5	45.6	60.9	51.6*	
Sometimes <sup>a</sup>	52.9*	37.1	50.5	36.0	44.1*	
Never <sup>a</sup>	6.7	2.5*	3.9*	3.1	4.3	
Don't need to use protective gear <sup>b</sup>	15.2*	17.4*	19.0*	19.4*	17.4*	
<b>Total</b>						
Always <sup>a</sup>	41.6	60.5	45.6	61.4	52.2	
Sometimes <sup>a</sup>	51.7	36.8	50.4	35.4	43.4	
Never <sup>a</sup>	6.7	2.7	4.0	3.2	4.4	
Don't need to use protective gear <sup>b</sup>	17.7	20.1	20.6	24.0	20.4	

Note: Table entries are percentages. Standard errors are shown in Table 23BSE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .<sup>b</sup>This category excludes those who do not need to use protective gear.<sup>b</sup>This category is the percentage of personnel who reported they do not need to use protective gear.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

Among those needing protective gear, significantly more Active-Duty than Reserve/Guard personnel reported that it was “always” available (68.3% vs. 63.7%) or “never” available (5.2% vs. 3.4%). Significantly more Reserve/Guard than Active-Duty personnel reported that they “always” used protective gear (57.3% vs. 52.2%) when they encounter hazardous substances or noises in their military jobs.

#### 4.9 Summary

In this chapter, we examined a variety of different health behaviors. Main findings are summarized below.

- For perceived physical fitness, most Reserve/Guard (65.6%) and Active-Duty (58.1%) personnel indicated their physical fitness was “good” to “excellent.” However, fewer Active-Duty than Reserve/Guard personnel reported their fitness was “good” to “excellent.” The fact that these data represent self-perceptions of fitness may explain these seemingly counterintuitive results. Individual perception may be strongly influenced by one’s frame of reference. Accordingly, Active-Duty personnel are among individuals who must be in stellar physical condition; hence, in comparison to their peers, they may feel less physically fit. In contrast, Reserve/Guard personnel most likely compare themselves to a broader range of people who are less likely to be physically fit. Therefore, Reserve/Guard personnel’s

perceptions are more likely to be positive than those of Active-Duty personnel.

- In the overall Reserve/Guard and Active-Duty populations, a significantly higher proportion of females than males considered themselves to be physically fit.
- About one-third (32.8%) of Reserve/Guard personnel said that diet and food choices were important to one’s health, while over one-half (56.1%) of Active-Duty personnel reported the same. Small but important percentages of Reserve/Guard and Active-Duty personnel reported not eating enough or overeating regularly (6 to 7 days in the past week). Notably, about one-quarter of Reserve/Guard personnel indicated that they took vitamins consistently (6 to 7 days in the past week), and about one-fifth of Active-Duty personnel reported the same habit. These findings suggest that further nutrition education is needed.
- In the overall Reserve/Guard and Active-Duty populations, significantly more females than males indicated that they tried to lose weight, changed their diet due to a medical condition, and ate in secret, while significantly more males than females reported that they were satisfied with their eating patterns. This observation reiterates the need for nutrition and dietary education. Moreover, these efforts should be targeted heavily toward females.

- Reports of hours of sleep obtained on an average night differed among Reserve/Guard and Active-Duty personnel. In the Reserve/Guard population, 5 to 6 hours (45.9%) or 7 to 8 hours (46.3%) of sleep were most commonly reported. In contrast, more Active-Duty personnel indicated that they slept 5 to 6 hours (51.9%) than 7 to 8 hours (38.8%) per night. In the Active-Duty population, males were more likely than females to report sleeping 5 to 6 hours (52.7% vs. 47.5%). Assuming a relationship between sleep and productivity, efforts to increase the average number of hours slept, particularly among Active-Duty personnel, could affect productivity.
- In general, reports of alcohol use were low. Most Reserve/Guard and Active-Duty personnel reported that they did not drink or drank on 1 to 3 days in the past 30 days. Moreover, most military personnel reported having no drinks or just one or two drinks on a typical day in the past 30 days. Reserve/Guard and Active-Duty females generally reported drinking on fewer days and reported having fewer drinks on a typical day in the past 30 days than males.
- Notably, Active-Duty personnel were more likely than those in the Reserve/Guard to report having five or more drinks on a typical day in the past 30 days (15.3% vs. 10.7%). About 9% of Reserve/Guard females and 12% of Reserve/Guard males would be considered binge drinkers. Slightly higher percentages

- were found in the Active-Duty (13.4% for females and 16.4% for males). Plans to reduce alcohol use among military personnel could be directed at personnel who are in the Active-Duty Services and personnel considered to be binge drinkers.
- Active-Duty personnel had similar rates of current and heavy cigarette smoking compared to Reserve/Guard personnel. Approximately one-quarter of Reserve/Guard personnel were current smokers, and 11% were heavy smokers. Nearly 30% of Active-Duty personnel were current smokers, and about 12% were heavy smokers. Active-Duty females were significantly less likely than their male counterparts to be current smokers (24.7% vs. 29.6%) or heavy smokers (7.3% vs. 12.6%). Interestingly, Army Reserve females were significantly more likely than their male counterparts to be smokers. Continued smoking cessation efforts are warranted to improve the health of a relatively large portion of military personnel.
- About 80% of Reserve/Guard and Active-Duty personnel reported that they needed to use protective gear in their military job.
- Most Reserve/Guard and Active-Duty personnel reported that protective gear was “always” available (63.7% and 68.3%), while very few reported that it was “never” available (3.4% and 5.2%). Never having protective gear available

highlights an occupational safety hazard. The DoD may want to consider ways to enhance the availability of protective gear.

- Although many Reserve/Guard and Active-Duty personnel reported “always” using protective gear when they encountered hazardous substances or noises in their military job, significantly more Reserve/Guard personnel did so (57.3% vs. 52.2%). This finding suggests that all personnel could benefit from occupational safety training.

## 5. PSYCHOSOCIAL FUNCTIONING

In this chapter, we discuss a variety of stressors that may affect military personnel. The questionnaires included items that assessed the nature of military personnel's exposure to disaster and violence, as well as items that identified specific sources of job stress and overall job stress. Psychosocial measures aimed at assessing "quality of life" included a life satisfaction scale, a social support scale, and a pair of items assessing positive and negative life events. In addition, the questionnaires included items to ascertain the prevalence of emotional, sexual, or physical abuse and treatment for abuse, as well as the prevalence of suicidal thoughts and need for formal depression evaluation.

presents data for Reserve personnel (24A), the second for Guard personnel (24B), and the third for Active-Duty personnel (24C).

In comparing exposure to disaster and violence among female and male Reserve personnel in Table 24A, we noted many significant differences. For the three types of exposure, we found the fewest significant sex differences for exposure to natural disasters and the greatest number for exposure to combat or violence. With the exception of Naval Reservists as a survivor/victim of violence, the exposure to combat or violence involving injuries or fatalities was significantly greater for males in the Reserve component.

### 5.1 Exposure to Disaster and Violence

Exposure to disaster or violence can sometimes have long-term effects on individuals. We included an original set of questions in the questionnaires that measures exposure to natural disasters, combat or violence, and major accidents involving injuries or fatalities so that we would be able to provide a history of these exposures, which in turn may help in studying their effects. Each of these exposures was assessed to discover if the individual had been a witness, survivor/victim, or someone involved in relief efforts. The question about exposure to combat or violence also assessed whether the individual had used deadly force in combat. Given the amount of information presented on this topic, these issues are examined in three tables: The first

Among Reserve personnel, more than 25% had been exposed to a natural disaster as a witness or as someone involved in relief work, while about 16% had been exposed as a survivor/victim. About one in five had been exposed to combat or violence as a witness (22.7%) or as someone involved in relief efforts (20.8%); fewer Reservists had been exposed to combat or violence as a survivor/victim (11.1%) or as someone who had used deadly force (7.7%). In terms of exposure to a major accident, greater percentages of Reserve personnel reported having been a witness (40.7%) than being involved in relief efforts (26.2%) or being a survivor/victim (15.2%).

**Table 24A Exposure to Disaster and Violence Among Reserve Personnel**

Exposure/Type	Army Reserve			Naval Reserve			Marine Corps Reserve			Air Force Reserve			Total Reserve Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Exposed to a Natural Disaster Involving Injuries/Fatalities</b>															
Witness	17.5*	28.1*	25.5	21.0	24.0	23.4	20.4	24.0	23.8	16.1*	38.2*	33.5	18.0*	28.6*	26.4
Survivor or victim	14.7	14.9	14.8	16.6	13.7	14.2	13.6	13.9	13.9	15.8	24.7	22.8	15.3	16.3	16.1
Involved in relief efforts <sup>a</sup>	15.7*	28.1*	25.0	18.3*	25.3*	24.0	12.2*	20.7*	20.3	19.3*	36.7*	33.0	16.8*	28.1*	25.8
<b>Exposed to Combat or Violence Involving Injuries/Fatalities</b>															
Witness	11.8*	27.1*	23.3	10.1*	18.4*	16.9	10.4*	30.4*	29.5	7.9*	28.0*	23.7	10.7*	25.8*	22.7
Survivor or victim	5.1*	14.5*	12.2	7.3	8.9	8.6	5.1*	13.0*	12.6	3.6*	11.7*	9.9	5.2*	12.6*	11.1
Involved in relief efforts <sup>a</sup>	11.2*	24.0*	20.8	10.6*	18.6*	17.1	7.2*	18.2*	17.7	11.5*	30.7*	26.7	11.0*	23.4*	20.8
Used deadly force	3.2*	10.2*	8.5	0.6*	6.5*	5.4	0.8*	7.4*	7.1	0.9*	10.7*	8.6	2.2*	9.1*	7.7
<b>Exposed to a Major Accident Involving Injuries/Fatalities</b>															
Witness	28.8*	43.2*	39.6	26.2*	41.2*	38.3	32.0*	46.5*	45.8	25.0*	48.4*	43.4	27.7*	44.1*	40.7
Survivor or victim	11.9	17.9	16.4	11.3	13.4	13.0	13.2	14.7	14.7	12.1	15.3	14.6	11.8*	16.0*	15.2
Involved in relief efforts <sup>a</sup>	13.6*	27.3*	23.9	16.8*	28.9*	26.6	11.2*	25.1*	24.5	19.4*	36.4*	32.8	15.2*	29.0*	26.2

Note: Table entries are percentages. Standard errors are shown in Table 24ASE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .<sup>b</sup>This item includes the following: participation in cleanup, rescue, investigation, or aid (remote or on-site).

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

Regardless of the type of exposure (natural disaster, combat or violence, or major accident), males in each of the Reserve components were significantly more likely than females to have been involved in relief efforts. Similarly, male Reservists were significantly more likely than females to have witnessed violence or a major accident. Only three Reserve components showed significant differences between females and males as a survivor or victim of any of the possible types of exposure: Females in the Army Reserve, Marine Corps Reserve, and Air Force Reserve were significantly less likely to indicate that they were a survivor or victim of combat or violence.

In comparing the exposure to disaster and violence among female and male Guard personnel in Table 24B, we discovered significant sex differences for nearly all exposures to disaster and violence. For the three types of exposure, we found fewer significant differences for males and females exposed to a natural disaster, while all comparisons of males and females exposed to a major accident or combat/violence were significant. The categories of witness to a natural disaster and survivor/victim of a natural disaster were the only ones that did not include universal sex differences among Guard personnel.

Among Guard personnel, approximately 42% had been exposed to a natural disaster as someone involved in relief work, while 26% had been exposed as a witness and 13% as a survivor or victim. Nearly one-quarter of the Guard members had been exposed to combat/violence as witnesses (23.2%) or as someone involved in relief efforts (23.5%); fewer had been exposed to

combat/violence as a survivor/victim (11.7%) or as someone who had used deadly force (8.4%). In terms of exposure to a major accident, greater percentages of Guard personnel reported having been a witness to a major accident (40.9%) than being involved in relief efforts (31.9%) or being a survivor or victim (16.2%).

For the three types of exposure (natural disaster, combat or violence, or major accident), males in both of the Guard components generally were significantly more likely than their female counterparts to have been a witness, involved in relief efforts, or to have used deadly force. One exception was the prevalence rates for Army National Guard personnel involved in natural disasters, which were similar among females and males as witnesses (22.7% vs. 26.2%) or survivors/victims (12.4% vs. 11.7%). Another exception was that Air National Guard members did not show significant differences among females and males who indicated they had been survivors or victims of a natural disaster.

In comparing the exposure to disaster and violence among female and male Active-Duty personnel, we noted many significant sex differences. The results of these comparisons are shown in Table 24C. For the three types of exposures, we found the fewest significant sex differences for exposures to natural disasters and the greatest number for exposures to combat or violence.

Among Active-Duty personnel, more than 25% had been exposed to natural disasters as a witness or as someone involved in relief work while about 17% had been exposed as a survivor/victim. Among Active-Duty personnel, about one in five

**Table 24B Exposure to Disaster and Violence Among Guard Personnel**

Exposure/Type	Army National Guard			Air National Guard			Total Guard Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Exposed to a Natural Disaster Involving Injuries/Fatalities</b>									
Witness	22.7	26.2	25.9	15.0*	29.7*	27.4	20.3*	27.0*	26.2
Survivor or victim	12.4	11.7	11.8	12.1	15.6	15.1	12.3	12.6	12.6
Involved in relief efforts <sup>a</sup>	25.3*	46.3*	44.2	21.0*	36.7*	34.2	24.0*	44.2*	41.9
<b>Exposed to Combat or Violence Involving Injuries/Fatalities</b>									
Witness	11.4*	25.5*	24.0	5.1*	23.3*	20.3	9.4*	25.0*	23.2
Survivor or victim	7.0*	13.0*	12.4	2.7*	11.0*	9.7	5.6*	12.6*	11.7
Involved in relief efforts <sup>a</sup>	7.0*	26.1*	24.1	7.1*	24.1*	21.4	7.0*	25.7*	23.5
Used deadly force	3.0*	10.4*	9.6	0.3*	5.4*	4.6	2.1*	9.3*	8.4
<b>Exposed to a Major Accident Involving Injuries/Fatalities</b>									
Witness	28.2*	43.4*	41.8	21.2*	41.1*	37.9	26.0*	42.9*	40.9
Survivor or victim	5.5*	18.0*	16.7	8.9*	15.5*	14.4	6.6*	17.5*	16.2
Involved in relief efforts <sup>a</sup>	18.0*	33.6*	32.0	19.6*	33.6*	31.3	18.5*	33.6*	31.9

Note: Table entries are percentages. Standard errors are shown in Table 24BSE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p<.05$ .<sup>a</sup>This item includes the following: participation in cleanup, rescue, investigation, or aid (remote or on-site).

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 24C Exposure to Disaster and Violence Among Active-Duty Personnel**

Exposure/Type	Army						Navy						Marine Corps						Air Force						Total Active-Duty Personnel					
	Females			Males			Females			Males			Females			Males			Females			Males			Females			Males		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total												
<b>Exposed to a Natural Disaster Involving Injuries/Fatalities</b>																														
Witness	21.5*	28.1*	27.2	16.9*	27.4*	25.9	16.2*	24.2*	23.7	29.5	25.2	26.0	23.1	26.7	26.2															
Survivor or victim	12.6	13.6	13.4	15.1*	21.6*	20.7	9.5*	15.4*	15.0	18.6	19.3	19.2	15.2	17.2	16.9															
Involved in relief efforts <sup>a</sup>	19.8*	27.7*	26.6	15.0*	28.7*	26.9	9.2*	20.0*	19.3	26.7	30.0	29.4	20.7*	27.7*	26.7															
<b>Exposed to Combat or Violence Involving Injuries/Fatalities</b>																														
Witness	12.4*	32.7*	29.8	7.0*	20.9*	19.0	8.3*	24.7*	23.6	8.4*	19.5*	17.5	9.5*	25.3*	23.0															
Survivor or victim	5.9*	14.1*	12.9	2.8*	7.6*	6.9	1.8*	9.8*	9.2	1.2*	7.7*	6.5	3.3*	10.4*	9.3															
Involved in relief efforts <sup>a</sup>	10.7*	25.7*	23.5	6.3*	17.7*	16.0	3.6*	16.1*	15.2	6.0*	16.3*	14.4	7.7*	20.0*	18.2															
Used deadly force	1.3*	12.5*	10.9	0.3*	5.2*	4.5	0.3*	10.0*	9.3	0.7*	2.5*	2.2	0.8*	7.8*	6.7															
<b>Exposed to a Major Accident Involving Injuries/Fatalities</b>																														
Witness	22.3*	41.2*	38.5	16.6*	36.0*	33.2	19.8*	37.1*	36.0	21.4*	36.6*	33.8	20.6*	38.2*	35.7															
Survivor or victim	10.6	13.8	13.4	13.0*	25.6*	23.6	12.2*	26.1*	25.1	7.6	10.4	9.9	10.1*	16.6*	15.6															
Involved in relief efforts <sup>a</sup>	11.4*	24.5*	22.7	12.8*	30.1*	27.6	7.8*	24.8*	23.7	12.8*	30.8*	27.5	12.1*	27.6*	25.3															

Note: Table entries are percentages. Standard errors are shown in Table 24CSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

<sup>a</sup>This item includes the following: participation in cleanup, rescue, investigation, or aid (remote or on-site).

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

had been exposed to combat or violence as a witness (23.0%) or as someone involved in relief efforts (18.2%); fewer Active-Duty personnel had been exposed to combat or violence as a survivor/victim (9.3%) or as someone who had used deadly force (6.7%). In terms of exposure to a major accident, greater percentages of personnel reported having witnessed a major accident (35.7%) than either those who reported being involved in relief efforts (25.3%) or those who reported being a survivor or victim (15.6%).

One of the notable Active-Duty Service differences occurred among those personnel exposed to natural disasters: Unlike personnel in the other Active-Duty Services, Air Force females and males reported similar exposure to a natural disaster as a witness, survivor/victim, and someone involved in relief efforts. Regardless of the type of exposure (natural disaster, combat or violence, or major accident), males in the Navy and Marine Corps were significantly more likely than females to have been exposed to them as a witness, survivor/victim, someone involved in relief efforts, or as someone who had used deadly force. Similarly, males in the Army were more likely to have been exposed to disaster or violence as a witness, someone involved in relief efforts, or as someone who had used deadly force. We did not find significant sex differences among Army personnel involved in natural disasters or major accidents as survivors or victims.

## 5.2 Job Stress

Exposure to job stress can affect how well military personnel function at work and at home. We included a set of questions to explore various facets of job stress, including stress arising from responsibilities, concerns about quality, role conflict, job versus nonjob conflict, and a summary measure of overall job stress (House, 1980; House et al., 1979). Personnel were asked to indicate how often they were bothered by something as a part of their current military job. Questions about stress from job responsibilities asked personnel about having enough help and equipment to get the job done well, about having too much responsibility for the work of others, and about having to do or decide things where mistakes could be quite costly. Items used to assess concerns about quality asked about the amount of work interfering with how well it gets done, about having to do things on the job that are against better judgment, and about being unable to influence an immediate supervisor's decisions. Items used to investigate role conflict included those about not being able to meet the conflicting demands of various people at work, not knowing just what people at work expect, and having to deal with or satisfy too many different people. We asked questions about job versus nonjob conflict, such as how often personnel feel that work tends to interfere with family life, how often personnel work overtime without wanting to do so, and how often personnel feel trapped in a job that they cannot change or get out of. These issues are examined in two tables; the first discusses Reserve/Guard personnel (25A), the second Active-duty personnel (25B).

In comparing females and males in the Reserve and Guard for the various facets of job stress in Table 25A, we noted more significant sex differences in terms of stress arising from responsibilities, with fewer differences for stress from quality concerns, even fewer differences from role conflicts, and the fewest number of significant sex differences for job versus nonjob conflict.

In general, Reserve/Guard personnel indicated a moderate amount of stress as a result of their current military job. Although about 32% of the total Reserve/Guard indicated a high level of stress from responsibilities, 28% of these personnel indicated a high level of stress for quality concerns, 23% did so for role conflict, and 21% did so for job versus nonjob conflict. Although only about one-fourth (23.3%) of Reserve/Guard females reported a high level of stress because of their responsibilities, a significantly greater proportion of Reserve/Guard males (33.5%) reported a high level of stress.

For the measures of job stress due to quality concerns, we observed significant differences between Reserve/Guard females and males. More males than females reported a high level of stress for this reason. As with stress from responsibilities, a significantly greater proportion of males (29.3%) reported a high level of stress due to quality concerns compared to females (23.9%), while a significantly lower proportion of males (40.9%) expressed a low level of stress because of their concerns about quality in comparison to females (49.6%).

Our review of stress from role conflict showed that Reserve/Guard females and males had similar rates, with about 23% of females and males indicating a high level of stress from role conflict. Moreover, females (18.9%) and males (21.2%) indicated similar rates of stress arising from job versus nonjob conflict for a high level of stress.

No consistent sex differences were noted among Reserve/Guard components, but the summary measure, overall stress, showed at least one significant difference between females and males in each Reserve/Guard component except for the Air National Guard. For example, females in the Army Reserve and Marine Corps Reserve were significantly less likely than their male counterparts to indicate a high level of overall job stress, but similar findings were not seen among females in the Army National Guard, Naval Reserve, or Air National Guard. Where there were significant differences within the individual Guard/Reserve components, they showed males reporting more stress than females.

In comparing Active-Duty females and males for various facets of job stress in Table 25B, we noted a greater number of significant sex differences in terms of stress arising from responsibilities, with fewer differences for stress from quality concerns or from role conflicts, and no significant sex differences for job versus nonjob conflict.

In general, Active-Duty personnel indicated a relatively high level of stress as a result of their current military job. Among

**Table 25A Job Stress Among Reserve/Guard Personnel**

Measure/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Job Stress Due to Responsibility</b>							
<b>Females</b>							
High	24.5	16.4*	21.8*	21.6	31.2	29.5	23.3*
Medium	28.0	28.5	29.8	22.4*	23.0	21.1	26.8
Low	47.5*	55.0*	48.4*	56.0*	45.8	49.3*	49.9*
<b>Males</b>							
High	31.3	36.0*	30.0*	25.1	33.8	33.9	33.5*
Medium	30.9	27.6	29.7	32.7*	29.2	28.1	28.9
Low	37.9*	36.4*	40.3*	42.3*	37.0	38.0*	37.6*
<b>Total</b>							
High	29.6	34.0	28.4	24.9	33.3	33.2	31.9
Medium	30.2	27.7	29.7	32.2	27.9	27.0	28.6
Low	40.2	38.3	41.8	42.9	38.8	39.8	39.5
<b>Job Stress Due to Concerns About Quality</b>							
<b>Females</b>							
High	24.8	18.5*	22.8	18.4*	27.3	31.4	23.9*
Medium	27.9	25.1	26.8*	24.7	26.9	25.0	26.5
Low	47.3	56.4*	50.4*	56.8*	45.8	43.5	49.6*
<b>Males</b>							
High	27.7	31.2*	23.6	25.2*	29.7	30.8	29.3*
Medium	31.4	27.4	33.6*	29.1	34.4	30.7	29.8
Low	40.9	41.4*	42.9*	45.7*	35.8	38.5	40.9*
<b>Total</b>							
High	27.0	29.9	23.4	24.9	29.2	30.9	28.4
Medium	30.5	27.1	32.3	28.9	32.9	29.8	29.3
Low	42.5	43.0	44.3	46.2	37.9	39.3	42.3
<b>Job Stress Due to Role Conflict</b>							
<b>Females</b>							
High	22.7	20.1	21.3	18.5	23.0	29.5	22.7
Medium	40.8	37.4	35.7*	41.5	35.2*	37.2	38.2
Low	36.5	42.5	43.0	39.9	41.8*	33.3	39.2
<b>Males</b>							
High	24.8	22.2	19.4	18.2	26.3	22.9	22.7
Medium	43.2	39.8	44.0*	42.9	48.9*	43.4	42.2
Low	32.0	38.0	36.5	38.9	24.8*	33.7	35.1
<b>Total</b>							
High	24.3	22.0	19.8	18.2	25.6	24.0	22.7
Medium	42.6	39.5	42.5	42.9	46.0	42.4	41.6
Low	33.1	38.5	37.7	38.9	28.4	33.7	35.8

See notes at end of table.

(continued)

**Table 25A (continued)**

Measure/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Job Stress Due to Job Versus Nonjob Conflict</b>								
<b>Females</b>								
High	20.4	17.4	17.4	20.2	20.8	17.6	18.9	
Medium	40.8	36.4	41.9	41.9	36.4*	43.3	39.6	
Low	38.7	46.3	40.7	37.9	42.8*	39.2	41.6	
<b>Males</b>								
High	22.6	21.1	19.4	25.3	18.4	20.8	21.2	
Medium	38.6	39.7	42.7	37.5	51.1*	44.3	41.1	
Low	38.7	39.2	37.8	37.2	30.5*	34.9	37.7	
<b>Total</b>								
High	22.1	20.7	19.0	25.1	18.9	20.3	20.9	
Medium	39.2	39.4	42.6	37.7	48.1	44.1	40.9	
Low	38.7	40.0	38.4	37.2	33.1	35.6	38.3	
<b>Overall Job Stress</b>								
<b>Females</b>								
High	22.7*	21.8	21.9	18.6*	26.9	28.8	23.6*	
Medium	36.1	24.1	32.7	33.6	30.2*	34.8	31.5	
Low	41.2	54.0*	45.4*	47.8	42.9*	36.4	44.9*	
<b>Males</b>								
High	29.9*	28.9	24.9	25.7*	27.5	29.7	28.5*	
Medium	33.3	33.1	37.8	34.3	43.7*	34.8	34.7	
Low	36.8	38.0*	37.2*	40.0	28.8*	35.5	36.8*	
<b>Total</b>								
High	28.1	28.1	24.4	25.4	27.4	29.6	27.8	
Medium	34.0	32.2	36.9	34.3	40.9	34.8	34.2	
Low	37.9	39.7	38.8	40.3	31.8	35.6	38.0	

Note: Table entries are column percentages. Standard errors are shown in Table 25ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 25B Job Stress Among Active-Duty Personnel**

Measure/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Job Stress Due to Responsibility</b>					
<b>Females</b>					
High	46.7	27.3*	31.9*	38.6	38.3*
Medium	27.0	29.3*	26.0	28.0	27.9
Low	26.3	43.4*	42.1*	33.3	33.9*
<b>Males</b>					
High	52.0	32.2*	39.7*	43.0	42.6*
Medium	27.0	32.8*	29.6	26.6	28.9
Low	20.9	35.0*	30.7*	30.3	28.5*
<b>Total</b>					
High	51.3	31.5	39.2	42.2	42.0
Medium	27.0	32.4	29.4	26.9	28.8
Low	21.7	36.1	31.3	30.9	29.2
<b>Job Stress Due to Concerns About Quality</b>					
<b>Females</b>					
High	42.2	30.0*	29.6	33.3	35.4*
Medium	29.0	29.0	29.7	32.1	30.1
Low	28.8	40.9*	40.6*	34.6	34.5*
<b>Males</b>					
High	44.9	37.0*	35.1	40.5	40.3*
Medium	31.1	30.4	31.4	27.8	30.1
Low	24.0	32.6*	33.5*	31.7	29.6*
<b>Total</b>					
High	44.5	36.1	34.8	39.2	39.6
Medium	30.8	30.2	31.3	28.6	30.1
Low	24.7	33.7	33.9	32.2	30.3
<b>Job Stress Due to Role Conflict</b>					
<b>Females</b>					
High	36.9	28.1	29.9	36.4	34.1
Medium	38.0	38.3*	36.5	36.7	37.5
Low	25.2	33.6*	33.6	27.0	28.4
<b>Males</b>					
High	37.1	28.6	28.9	34.9	33.1
Medium	40.7	41.8*	40.6	38.2	40.4
Low	22.1	29.6*	30.5	27.0	26.5
<b>Total</b>					
High	37.1	28.5	29.0	35.1	33.2
Medium	40.3	41.4	40.3	37.9	40.0
Low	22.6	30.1	30.7	27.0	26.8

See notes at end of table.

(continued)

**Table 25B (continued)**

Measure/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Job Stress Due to Job Versus Nonjob Conflict</b>					
<b>Females</b>					
High	50.8	35.3	37.8	34.7	40.7
Medium	32.1	37.9	34.1	39.4	36.2
Low	17.1	26.8	28.0	25.8	23.1
<b>Males</b>					
High	51.6	36.9	46.1	40.4	44.0
Medium	31.4	38.4	30.6	39.0	35.1
Low	17.0	24.7	23.4	20.6	20.9
<b>Total</b>					
High	51.5	36.7	45.6	39.4	43.5
Medium	31.5	38.3	30.8	39.1	35.3
Low	17.1	24.9	23.6	21.5	21.2
<b>Overall Job Stress</b>					
<b>Females</b>					
High	51.2	32.4*	35.7	40.4	41.9
Medium	27.3	34.6	29.3	33.6	31.4
Low	21.5	33.0*	35.1*	26.0	26.6
<b>Males</b>					
High	55.3	37.9*	40.3	43.3	45.5
Medium	27.3	33.7	32.7	31.6	30.9
Low	17.4	28.4*	27.0*	25.1	23.7
<b>Total</b>					
High	54.7	37.2	40.1	42.7	45.0
Medium	27.3	33.8	32.5	32.0	31.0
Low	18.0	29.0	27.4	25.3	24.1

Note: Table entries are column percentages. Standard errors are shown in Table 25BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

Active-Duty personnel, we noted that although about 42% indicated a high level of stress from responsibilities, 40% indicated a high level of stress for quality concerns, 33% indicated the same for role conflict, and 44% indicated a high level of stress for job versus nonjob conflict. In terms of job stress due to responsibilities, more males than females reported a high level of stress. Although about 38% of females reported a high level of stress because of their responsibilities, a significantly greater proportion of males (42.6%) reported the same high level.

For the measure of job stress due to quality concerns, we observed significant differences between Active-Duty females and males. A significantly greater proportion of males (40.3%) reported a high level of stress in comparison to females (35.4%).

Our review of stress from role conflict showed that Active-Duty females and males had similar rates, with approximately 34% of females and 33% of males indicating a high level of stress from role conflict. Also, females (40.7%) and males (44.0%) indicated similar rates of stress arising from job versus nonjob conflict for high levels of stress, although none of the relationships for job versus nonjob conflict was significant.

Although we found a few significant differences between females and males in the Navy and Marine Corps in terms of overall stress, we did not observe any significant sex differences for personnel in the Army or Air Force. Where significant differences did exist within Active-Duty Services, they showed males reporting more stress than females.

### 5.3 Life Satisfaction

A measure of "life satisfaction" (Andrews & Withey, 1976) was included to provide insight into how personnel perceived their professional and family lives in tandem. We asked personnel, "How do you feel about your life as a whole?" The response options included "pleased/delighted"; "mostly satisfied"; "mixed"; "mostly dissatisfied"; and "terrible/unhappy." These data are presented in two tables: The first shows data for Reserve/Guard personnel (26A) and the second Active-Duty personnel (26B).

We reviewed the prevalence estimates of life satisfaction among Reserve/Guard personnel as presented in Table 26A and found very few significant differences for females and males. In general, the estimates of life satisfaction showed that about three-fourths of Reserve/Guard personnel were either pleased or mostly satisfied with their lives. We did observe slight variations among Reserve/Guard personnel. About 20% of Reserve/Guard personnel had mixed feelings about their lives as a whole, while 3% said they were mostly dissatisfied with their lives. Very few personnel judged their lives to be "terrible or unhappy" (1.3%). More specifically, the highest percentage of personnel who indicated they were pleased with their lives was found among Air National Guard personnel, and the highest percentage of personnel who were unhappy with their lives was found among Army National Guard personnel.

In Table 26B, we reviewed the prevalence estimates of life satisfaction among Active-Duty personnel and found very few

**Table 26A Life Satisfaction Among Reserve/Guard Personnel**

Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Females</b>								
Pleased/delighted <sup>a</sup>	20.3	18.8	23.0	24.9	29.5	27.0	22.1	
Mostly satisfied	46.3*	55.3	50.7	45.1	47.1	55.5	50.6	
Mixed	24.8*	21.2	23.4	22.9	17.5	14.6	21.5	
Mostly dissatisfied	7.9	2.3	2.6	6.4	5.7	0.4*	4.5*	
Terrible/unhappy	0.7	2.5	0.2	0.7	0.2	2.4	1.3	
<b>Males</b>								
Pleased/delighted <sup>a</sup>	25.7	21.0	25.2	27.3	26.3	28.3	24.0	
Mostly satisfied	55.3*	53.1	51.9	47.0	56.7	53.6	53.4	
Mixed	14.3*	22.4	19.3	22.5	15.1	16.4	19.1	
Mostly dissatisfied	3.5	1.3	3.4	3.2	1.6	1.7*	2.1*	
Terrible/unhappy	1.2	2.2	0.2	**	0.3	**	1.3	
<b>Total</b>								
Pleased/delighted <sup>a</sup>	24.4	20.8	24.8	27.2	26.9	28.1	23.7	
Mostly satisfied	53.1	53.3	51.7	46.9	54.7	53.9	53.0	
Mixed	16.9	22.3	20.1	22.5	15.6	16.1	19.5	
Mostly dissatisfied	4.6	1.4	3.2	3.4	2.5	1.5	2.5	
Terrible/unhappy	1.1	2.3	0.2	0.1	0.3	0.4	1.3	

Note: Table entries are column percentages. Standard errors are shown in Table 26ASE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

\*\*Low precision.

<sup>a</sup>The 1998 Total Force Health Assessment used the response option "pleased," while the 1995 POWR Assessment used the response option "delighted."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 26B Life Satisfaction Among Active-Duty Personnel**

Measure/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Females</b>					
Pleased/delighted <sup>a</sup>	21.6	29.4	28.8	25.2	25.2*
Mostly satisfied	47.7	49.5	47.8	54.6	50.5
Mixed	25.0	17.3	19.3*	17.6	20.2
Mostly dissatisfied	4.6	3.0	2.3*	2.0	3.2
Terrible/unhappy	1.2	0.8*	1.8	0.6	0.9
<b>Males</b>					
Pleased/delighted <sup>a</sup>	25.6	31.4	33.9	27.2	28.7*
Mostly satisfied	45.5	50.2	45.8	50.4	48.1
Mixed	24.1	15.3	13.9*	17.8	18.7
Mostly dissatisfied	3.5	2.7	5.7*	4.5	3.8
Terrible/unhappy	1.2	0.3*	0.7	0.2	0.6
<b>Total</b>					
Pleased/delighted <sup>a</sup>	25.0	31.2	33.6	26.8	28.2
Mostly satisfied	45.8	50.1	45.9	51.2	48.4
Mixed	24.2	15.6	14.3	17.8	18.9
Mostly dissatisfied	3.7	2.7	5.5	4.0	3.8
Terrible/unhappy	1.2	0.4	0.8	0.2	0.7

Note: Table entries are column percentages. Standard errors are shown in Table 26BSE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .<sup>a</sup>The 1998 Total Force Health Assessment used the response option "pleased," while the 1995 POWR Assessment used the response option "delighted."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

significant differences for females and males. In general, the estimates of life satisfaction showed that about three-fourths of Active-Duty personnel were either pleased or mostly satisfied with their lives. We found similar patterns among Active-Duty personnel. About 20% had mixed feelings about their lives as a whole, while about 4% said they were mostly dissatisfied with their lives. Very few personnel judged their lives to be “terrible or unhappy” (0.7%). More specifically, the highest percentage of personnel who indicated they were pleased with their lives was found among Marine Corps personnel, and the highest percentage of personnel who were unhappy with their lives was found among Army personnel.

#### 5.4 Negative and Positive Life Events

A measure of “negative life events” and a measure of “positive life events” were included to help describe events that had occurred in the personal lives of Military personnel during the past year. These measures were taken from the Health Risk Appraisal (U.S. Army, n.d.). These events, including those perceived as positive, could be considered stressors and, therefore, adversely affect personnel’s ability to carry out their military responsibilities. To assess negative life events, we asked personnel, “In the past 12 months, how many serious personal losses or difficult problems have you had to handle (e.g., promotion passover, divorce or separation, legal or disciplinary action, bankruptcy, death of someone close, serious illness or injury of a loved one, etc.)?” Response options were “many,” “some,” “few,” or “none.” These data are presented in two tables:

The first shows data for Reserve/Guard personnel (27A) and the second for Active-Duty personnel (27B). To assess positive life events, we asked personnel, “In the past 12 months, how often did you experience a major pleasant change (for example, promotion, marriage, birth, award, etc.)?” Response options were “often,” “sometimes,” “rarely (but at least once),” or “never.”

In general, about two-thirds of Reserve/Guard personnel reported having had either few (42.4%) or no (26.5%) negative life events in the past year. Nearly 10% of Reserve/Guard personnel indicated they had had many/several negative life events occur in the past year, while about 20% indicated that they had had some negative life events. We did observe slight variations across the Reserve/Guard components. Army National Guard personnel reported the fewest negative events (66.3% for the “few” and “none” categories combined), while Air National Guard members reported the most (75.0% for the “few” and “none” categories combined).

In Table 27A, the prevalence estimates of negative life events among Reserve/Guard personnel showed some significant differences for females and males with females reporting more negative events than males (39.5% of females reported many or some negative life events while 29.5% of males reported many or some negative life events). We examined differences within Reserve/Guard components and found that females were more likely than males to indicate negative life events. For example, Army Reserve, Army National Guard, and Air National Guard females when compared to their male counterparts showed

**Table 27A Negative and Positive Life Events in the Past Year Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Negative Events</b>							
<b>Females</b>							
Many/several <sup>a</sup>	17.7*	17.5*	13.2	11.0	10.9	11.4*	15.5*
Some	27.5*	20.7	21.2	22.7	26.4	22.1	24.0
Few	38.1	39.4	43.6	47.0	50.1	46.5	41.7
None	16.7*	22.3	22.0*	19.3	12.6*	20.1*	18.9*
<b>Males</b>							
Many/several <sup>a</sup>	7.5*	9.6*	9.1	8.8	6.7	5.3*	8.3*
Some	19.3*	23.6	18.5	20.4	21.2	18.1	21.2
Few	43.2	41.6	41.7	45.4	40.3	45.6	42.5
None	30.1*	25.2	30.6*	25.4	31.8*	31.0*	27.9*
<b>Total</b>							
Many/several <sup>a</sup>	10.0	10.5	9.9	8.9	7.6	6.3	9.5
Some	21.3	23.3	19.0	20.5	22.3	18.8	21.6
Few	41.9	41.4	42.1	45.5	42.4	45.8	42.4
None	26.8	24.9	29.0	25.1	27.7	29.2	26.5
<b>Positive Events</b>							
<b>Females</b>							
Often	6.7	11.8	6.7	7.8	9.2	7.2	8.5*
Sometimes	34.1*	38.9	34.6	48.3	42.9	39.1	37.3
Rarely/seidom <sup>b</sup> (but at least once)	47.4*	32.2	37.7	34.0	37.5	36.0	39.3
Never	11.8	17.1	21.0	9.9	10.3	17.6	14.9
<b>Males</b>							
Often	5.7	5.7	5.3	7.4	3.8	4.8	5.5*
Sometimes	45.0*	39.8	37.6	42.5	42.6	38.2	40.8
Rarely/seidom <sup>b</sup> (but at least once)	36.3*	38.0	40.6	39.3	42.1	40.3	38.6
Never	13.0	16.6	16.5	10.8	11.5	16.8	15.2
<b>Total</b>							
Often	6.0	6.3	5.6	7.4	5.0	5.2	6.0
Sometimes	42.3	39.7	37.0	42.7	42.7	38.3	40.2
Rarely/seidom <sup>b</sup> (but at least once)	39.0	37.4	40.1	39.1	41.1	39.6	38.7
Never	12.7	16.6	17.3	10.8	11.2	16.9	15.1

Note: Table entries are column percentages. Standard errors are shown in Table 27/ASE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .<sup>b</sup>The 1998 Total Force Health Assessment used the response option "many," while the 1995 POWR Assessment used the response option "several."<sup>b</sup>The 1998 Total Force Health Assessment used the response option "rarely," while the 1995 POWR Assessment used the response option "seldom."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

significantly greater percentages of “many/several” negative life events in the past year (17.7% vs. 7.5%, 17.5% vs. 9.6%, and 11.4% vs. 5.3%, respectively).

Overall, nearly half of Reserve/Guard personnel had had positive events that occurred either often (6.0%) or sometimes (40.2%) in the past year. About 40% of Reserve/Guard personnel indicated they had experienced positive life events rarely in the past year, while 15% indicated that they had not had any positive life events occur. We did observe slight variations across the Reserve/Guard components. Marine Corps Reserve personnel reported the most positive events (50.1% for the “often” and “sometimes” categories combined), while Naval Reservists reported the fewest positive events (42.6%).

The prevalence estimates of positive life events among Reserve/Guard personnel showed fewer significant differences among females and males, although females were more likely to indicate that they had experienced positive events, as seen by examining the “often” category. We found that females and males within each component were similar to each other. Only Army Reserve females indicated significantly lower prevalence of positive life events in comparison to their male counterparts (34.1% vs. 45.0% for the “sometimes” category and 47.4% vs. 36.3% for the “rarely/seldom” category).

significant difference for females and males. Similarly, we did not uncover notable differences for Active-Duty personnel. 11.4% vs. 5.3%, respectively).

In general, more than two-thirds of Active-Duty personnel had either few (43.0%) or no (28.8%) negative life events in the past year. About 11% indicated they had had many/several negative life events occur in the past year, while nearly 20% indicated that they had had some negative life events. We observed only slight variations to this pattern across the Active-Duty Services. Navy personnel reported the fewest negative events (73.9% for the “few” and “none” categories combined), while Army personnel reported the most (70.3% for the “few” and “none” categories combined). None of these differences, however, was significant.

The prevalence estimates of positive life events among Active-Duty personnel showed a few significant differences among females and males, with females more likely to indicate that they had experienced positive events (examining the “often” category). We found that females and males were more similar to each other than different within each Active-Duty Service with only two exceptions: Females in the Army were significantly more likely than Army males to report positive events occurring rarely or never in the past year, and females in the Navy were more likely than Navy males to report positive life events that occurred often in the past year.

The prevalence estimates shown in Table 27B on negative life events among Active-Duty personnel showed just one

Overall, about 40% of Active-Duty personnel reported having had positive events that occurred either often (7.7%) or

**Table 27B Negative and Positive Life Events in the Past Year Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Negative Events</b>					
<b>Females</b>					
Many/several <sup>a</sup>	10.4	10.5	14.0*	12.6	11.4
Some	17.1	13.5	14.2	21.1	17.4
Few	47.4	43.3	40.4	43.1	44.5
None	25.0	32.6	31.4	23.2	26.7
<b>Males</b>					
Many/several <sup>a</sup>	10.9	12.1	9.0*	8.8	10.5
Some	19.0	14.2	17.4	19.8	17.7
Few	44.4	41.5	40.1	43.3	42.7
None	25.6	32.2	33.4	28.1	29.1
<b>Total</b>					
Many/several <sup>a</sup>	10.9	11.9	9.3	9.5	10.6
Some	18.7	14.1	17.2	20.0	17.6
Few	44.8	41.7	40.2	43.3	43.0
None	25.5	32.2	33.3	27.2	28.8
<b>Positive Events</b>					
<b>Females</b>					
Often	9.8	8.4*	10.4	8.7	9.1
Sometimes	37.9	31.5	28.4	39.9	36.4
Rarely/seldom <sup>b</sup> (but at least once)	32.8*	42.3	45.5	38.9	37.9*
Never	19.6*	17.8	15.7	12.5	16.5
<b>Males</b>					
Often	9.3	6.3*	9.3	5.2	7.5
Sometimes	33.0	30.3	31.0	42.5	34.3
Rarely/seldom <sup>b</sup> (but at least once)	43.7*	43.0	44.8	37.5	42.1*
Never	13.9*	20.5	14.9	14.8	16.1
<b>Total</b>					
Often	9.4	6.6	9.4	5.8	7.7
Sometimes	33.7	30.4	30.8	42.0	34.6
Rarely/seldom <sup>b</sup> (but at least once)	42.1	42.9	44.9	37.8	41.5
Never	14.8	20.1	14.9	14.4	16.1

Note: Table entries are column percentages. Standard errors are shown in Table 27BSE in Appendix D.

\*Sex differences are significant at  $p < .05$ .

<sup>a</sup>The 1998 Total Force Health Assessment used the response option "many," while the 1995 POWR Assessment used the response option "several."

<sup>b</sup>The 1998 Total Force Health Assessment used the response option "rarely," while the 1995 POWR Assessment used the response option "seldom."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

sometimes (34.6%) in the past year. About 42% indicated they had experienced positive life events rarely in the past year, while 16% indicated that they had not had any positive life events. We did observe slight variations across the Active-Duty Services. Air Force personnel reported more positive events (47.8% for the “often” and “sometimes” categories combined), while Navy members reported the fewest positive events (37.0% for the “often” and “sometimes” categories combined).

## 5.5 Prevalence of Abuse and Treatment for Abuse

To be able to describe an issue that has received increased attention by the Military in recent years, we included a series of questions about the prevalence of emotional abuse, sexual abuse, and physical abuse that had been designed for this study. We assessed these types of abuse by asking personnel whether they had been abused in any of these ways before entering the Military, as well as whether they had been abused since entering the Military. In addition to these questions, we asked whether military personnel who had been abused had ever received treatment or counseling for the abuse. Tables 28A (for Reserve/Guard personnel) and 28B (for Active-Duty personnel) show, by sex and Reserve/Guard component and Active-Duty Service, the percentages of military personnel who had been abused and, among those, who had received treatment or counseling for the abuse.

In comparing the prevalence of abuse among female and male Reserve/Guard personnel as shown in Table 28A, we noted nearly universal significant sex differences. One exception was

that Reserve/Guard females and males had been emotionally abused prior to entering the Military at similar frequencies. Aside from this exception, females were significantly more likely than males to have been abused emotionally, sexually, or physically prior to entering the Military, as well as after having entered the Military.

Examining the types of abuse experienced prior to entering the Military among Reserve/Guard personnel, we observed that about 7% of all personnel had suffered emotional abuse and 6% had suffered sexual abuse, while almost 13% had been physically abused. About one in five females had been abused emotionally prior to entering the Military, while one in four females had been abused sexually and one in three had been abused physically. Males indicated much lower prevalence of emotional, sexual, or physical abuse prior to entering the Military (5.1%, 2.6%, and 9.4% respectively). Estimates of emotional and sexual abuse experienced among all Reserve/Guard personnel since entering the Military were low (4.2% and 2.1%, respectively). However, about 15% of all personnel indicated they had been physically abused since entering the Military. For females who reported being abused since entering the Military, we noted that about 12% had suffered emotional abuse and about the same percentage had experienced sexual abuse, while a much larger percentage (32.2%) had suffered physical abuse. Males reported much less abuse since entering the Military: About 3% had suffered emotional abuse, less than 1% had suffered sexual abuse, and 12% had suffered physical abuse.

**Table 28A** Prevalence of Abuse and Treatment for Abuse Among Reserve/Guard Personnel

Measure/Sex/Prevalence	Army Reserve	Army Guard	National Reserve	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Abused Prior to Entering Military<sup>a</sup></b>									
<b>Females</b>	19.9*	22.6*	23.4*	10.6	16.4*	16.2*	20.1*	20.1*	
Emotional abuse	23.6*	24.8*	25.4*	23.7*	26.6*	23.3*	24.5*	24.5*	
Sexual abuse	33.3*	34.0*	35.9*	27.7*	26.9*	27.0*	32.2*	32.2*	
Physical abuse									
<b>Males</b>	4.8*	5.0*	5.8*	6.5	6.3*	3.9*	5.1*	5.1*	
Emotional abuse	1.8*	2.1*	4.0*	2.1*	3.6*	3.8*	2.6*	2.6*	
Sexual abuse	9.6*	8.1*	10.4*	11.8*	13.6*	9.1*	9.4*	9.4*	
Physical abuse									
<b>Total</b>	8.5	6.8	9.1	6.7	8.4	5.8	7.4	7.4	
Emotional abuse	7.2	4.5	8.0	3.1	8.4	6.9	6.0	6.0	
Sexual abuse									
Physical abuse	15.4	10.8	15.1	12.5	16.4	12.0	12.9	12.9	
<b>Abused Since Entering Military<sup>a</sup></b>									
<b>Females</b>	12.1*	11.1*	13.3*	11.1*	10.7*	13.1*	11.9*	11.9*	
Emotional abuse	13.4*	10.0*	9.3*	14.6*	12.9*	14.3*	12.1*	12.1*	
Sexual abuse	35.1*	28.5*	31.7*	32.3*	26.4*	37.8*	32.2*	32.2*	
Physical abuse									
<b>Males</b>	4.0*	2.8*	2.8*	3.3*	1.3*	1.8*	2.8*	2.8*	
Emotional abuse	0.1*	0.4*	0.1*	0.2*	**	0.5*	0.3*	0.3*	
Sexual abuse	12.6*	11.2*	11.5*	9.7*	12.7*	11.7*	11.6*	11.6*	
Physical abuse									
<b>Total</b>	6.0	3.6	4.8	3.7	3.3	3.6	4.2	4.2	
Emotional abuse	3.4	1.4	1.8	0.8	2.7	2.7	2.1	2.1	
Sexual abuse									
Physical abuse	18.1	13.0	15.3	10.7	15.6	15.9	14.8	14.8	
<b>Ever Received Treatment/ Counseling for Abuse<sup>b</sup></b>									
<b>Females</b>	33.5	37.8*	44.6*	36.9*	32.3	46.5*	37.6*	37.6*	
Yes	66.5	62.2*	55.4*	63.1*	67.7	53.5*	62.4*	62.4*	
No									
<b>Males</b>	25.7	19.5*	24.1*	14.5*	28.5	18.7*	21.6*	21.6*	
Yes	74.3	80.5*	75.9*	85.5*	71.5	81.3*	78.4*	78.4*	
No									
<b>Total</b>	28.9	23.6	31.1	17.1	30.0	27.1	26.4	26.4	
Yes	71.1	76.4	68.9	82.9	70.0	72.9	73.6	73.6	
No									

Note: Table entries are percentages. Standard errors are shown in Table 28ASE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .<sup>b</sup>Low precision.<sup>a</sup>Individual respondents may have reported more than one type of abuse.<sup>b</sup>This item only includes personnel who reported emotional, sexual, or physical abuse at any time.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

Overall, only about 26% of personnel who had ever been abused reported that they had received treatment for the abuse they experienced. Similar to the findings for the types of abuse experienced by Reserve/Guard personnel, females (37.6%) were significantly more likely than males (21.6%) to have received treatment for abuse they had experienced. The prevalence of abused females who received treatment or counseling was significantly higher in each of the Reserve/Guard components except for the Army Reserve and Air Force Reserve where the comparison of females to males did not yield significant differences.

In comparing the prevalence of abuse among female and male Active-Duty personnel in Table 28B, we noted significant sex differences overall and for all the Active-Duty Services. For the three types of abuse, we found that Active-Duty females were significantly more likely than their male counterparts to have experienced emotional, sexual, or physical abuse prior to entering the Military. Active-Duty females also were significantly more likely to have been abused emotionally, sexually, or physically since entering the Military in comparison to Active-Duty males.

the Military, while similar percentages of females had been abused sexually and physically (23.7% and 25.0%). Males indicated much lower prevalence of emotional, sexual, or physical abuse prior to entering the Military (5.9%, 4.1%, and 10.7% respectively). Similar to the findings for the Reserve/Guard, small percentages of all Active-Duty personnel reported experiencing emotional or sexual abuse since entering the Military (3.8% and 1.5%, respectively), while almost 15% reported experiencing physical abuse. For females reporting abuse since entering the Military, we noted that similar percentages had suffered emotional abuse (9.2%) and sexual abuse (8.6%), while a much larger percentage (24.7%) had suffered physical abuse. Males experienced much less abuse since entering the Military: About 3% had suffered emotional abuse, less than 1% had suffered sexual abuse, and 13% had suffered physical abuse.

Similar to the findings among the total Reserve/Guard, about 23% of all Active-Duty personnel indicated that they had received treatment for abuse they had suffered. Active-Duty females (32.6%) were more likely than males (19.1%) to have received treatment for abuse they had experienced. The prevalence of abused females who received treatment or counseling was significantly higher in each of the Active-Duty Services except for the Air Force where the comparison of females to males did not yield significant differences.

Examining the types of abuse experienced prior to entering the Military among Active-Duty personnel, we found that similar percentages of personnel reported that they had been emotionally or sexually abused (7.4% and 6.9%, respectively), while about 13% reported being physically abused. These results are similar to those found in the Reserve/Guard population. We observed that about one in five females had been abused emotionally prior to entering

**Table 28B** Prevalence of Abuse and Treatment for Abuse Among Active-Duty Personnel

Measure/Sex/Level	Army	Air Force	Marine Corps	Total Active-Duty Personnel
<b>Abused Prior to Entering Military<sup>a</sup></b>				
<b>Females</b>				
Emotional abuse	18.9*	19.4*	13.7*	17.0*
Sexual abuse	24.4*	29.2*	19.2*	23.7*
Physical abuse	29.2*		19.5*	25.0*
<b>Males</b>				
Emotional abuse	9.3*	5.1*	4.6*	5.9*
Sexual abuse	5.0*	2.2*	3.8*	4.1*
Physical abuse	13.2*	9.4*	6.3*	10.7*
<b>Total</b>	10.7	6.0	5.1	7.4
Emotional abuse	7.8	4.0	4.7	6.9
Sexual abuse			9.7	
Physical abuse	15.5	10.5	7.0	12.7
<b>Abused Since Entering Military<sup>a</sup></b>				
<b>Females</b>				
Emotional abuse	10.1*	8.5*	11.5*	9.2*
Sexual abuse	9.9*	5.5*	5.8*	8.6*
Physical abuse	29.6*	17.6*	22.9*	24.7*
<b>Males</b>				
Emotional abuse	4.3*	1.7*	2.8*	2.9*
Sexual abuse	0.4*	0.2*	0.6*	0.3*
Physical abuse	14.4*	10.7*	8.4*	12.8*
<b>Total</b>	5.2	2.6	3.3	3.8
Emotional abuse	1.8	0.9	0.9	1.5
Sexual abuse			2.0	
Physical abuse	16.6	11.6	9.3	14.5
<b>Ever Received Treatment/ Counseling for Abuse<sup>b</sup></b>				
<b>Females</b>				
Yes	32.7*	33.5*	30.7*	32.6*
No	67.3*	66.5*	69.3*	67.4*
<b>Males</b>				
Yes	20.9*	16.0*	8.1*	19.1*
No	79.1*	84.0*	91.9*	80.9*
<b>Total</b>	23.9	19.9	11.3	22.5
Yes	76.1	80.1	88.7	77.5
No			73.7	

Note: Table entries are percentages. Standard errors are shown in Table 28BSE in Appendix D.

<sup>a</sup>Sex differences are significant at  $p < .05$ .<sup>b</sup>Individual respondents may have reported more than one type of abuse.<sup>b</sup>This item only includes personnel who reported emotional, sexual, or physical abuse at any time.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

## 5.6 Selected Mental Health Measures

We included a scale item to screen for the presence of possible depressive symptoms. The scale items asked personnel to indicate how often in the past week they had experienced a number of symptoms. The seven items included in the shortened version of the scale were (1) "My sleep was restless," (2) "I felt lonely," (3) "I felt I could not shake off the blues even with the help from my family or friends," (4) "I felt sad," (5) "I could not get 'going,'" (6) "I had trouble keeping my mind on what I was doing," and (7) "I felt that everything I did was an effort." We combined scale items to develop a composite indicator of personnel's probable need for further assessment for depression using this shortened version (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993) of the scale developed by the Center for Epidemiologic Studies (Comstock & Helsing, 1976; Radloff, 1977; Radloff & Locke, 1986; Weisman, Sholomskas, Pottenger, Prusoff, & Locke, 1977).

Tables 29A (for Reserve/Guard personnel) and 29B (for Active-Duty personnel) show, by sex and Reserve/Guard component and Active-Duty Service, the percentages of military personnel who met this composite screening criterion. An additional set of items was taken from the U.S. Army's Health Risk Appraisal designed to detect suicidal ideation by asking, "Have you seriously considered committing suicide in the past 2 months, within the past year, or within the past 2 years?" (yes/no response options were provided for each segment of this question).

As shown in Table 29A, almost 23% of personnel in the Reserve/Guard scored as being in need of formal depression evaluation. We found evidence of sex differences in the need for further assessment for depression. For the total Reserve/Guard, the percentage of females who had a score suggestive of a need for further depression evaluation was about 30%, whereas the percentage of males was 22%. Although this difference was statistically significant for the total Reserve/Guard personnel, it was not significant for each Reserve/Guard component. In the Army Reserve, Army National Guard, Marine Corps Reserve, and Air National Guard, females were significantly more likely than males to score as needing further depression evaluation. In the Naval Reserve and Air Force Reserve, however, there were no significant sex differences.

Prevalence of suicidal ideation is presented in Table 29A. Consideration of suicide was asked separately for each time frame, and the percentages shown in the table are responses to each time frame exclusively. About 1% of the total Reserve/Guard reported that they had considered suicide in the past 2 months (1.4%), roughly 2% reported considering it in the past 3 to 13 months (1.5%), and more than 2% in the past 13 to 24 months (2.4%). Although the estimates for suicidal ideation were low, they are nonetheless important to note. Overall, the prevalence of suicidal ideation was significantly higher among Reserve/Guard females (3.0%) than males (1.1%) for those who considered suicide within the past 2 months. In the Army Reserve, Army National Guard, and Marine Corps Reserve, significant sex differences were evident. In the Army Reserve and Marine Corps Reserve, more

**Table 29A Selected Mental Health Measures Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Depression<sup>a</sup></b>							
<b>Females</b>							
Depressed	33.8*	35.4*	20.2	34.9*	19.3	28.1*	30.3*
Not depressed	66.2*	64.6*	79.8	65.1*	80.7	71.9*	69.7*
<b>Males</b>							
Depressed	21.0*	23.3*	17.6	26.4*	22.3	16.6*	21.5*
Not depressed	79.0*	76.7*	82.4	73.6*	77.7	83.4*	78.5*
<b>Total</b>							
Depressed	24.1	24.5	18.1	26.8	21.7	18.4	22.9
Not depressed	75.9	75.5	81.9	73.2	78.3	81.6	77.1
<b>Personnel Who Seriously Considered Suicide</b>							
<b>Females</b>							
Within past 2 months	4.2*	2.9	1.6	5.0*	2.0	1.6	3.0*
3 to 12 months ago	2.2	0.1*	0.2	1.5	2.0	1.6	1.3
13 to 24 months ago	3.5*	2.1	1.1	1.1*	0.2	1.4	2.2
<b>Males</b>							
Within past 2 months	0.4*	2.0	0.4	0.6*	0.3	0.7	1.1*
3 to 12 months ago	1.6	2.0*	1.2	2.5	0.2	0.7	1.6
13 to 24 months ago	0.6*	3.8	1.0	3.5*	1.4	1.5	2.4
<b>Total</b>							
Within past 2 months	1.3	2.1	0.6	0.8	0.7	0.8	1.4
3 to 12 months ago	1.7	1.8	1.0	2.4	0.6	0.9	1.5
13 to 24 months ago	1.3	3.6	1.0	3.4	1.1	1.5	2.4

Note: Table entries are percentages. Standard errors are shown in Table 29ASE in Appendix D.

\*Sex differences significant at  $p < .05$ .<sup>a</sup>Personnel are categorized as "depressed" or "not depressed" based on their scores on the CES-D (Center for Epidemiologic Studies—Depression), which is only an indicator of depression, not a clinical diagnosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

females (4.2% and 5.0%, respectively) than males (0.4% and 0.6%, respectively) had considered suicide within the past 2 months. When prevalence of suicidal thoughts in the past 3 to 12 months was examined, however, males tended to show higher rates than females, and this difference was significant among Army National Guard personnel (0.1% vs. 2.0%).

Active-Duty personnel also responded to the questions about depressive symptoms and suicidal ideation. The results are shown in Table 29B. In general, patterns of depressive symptoms and suicidal ideation were similar for Active-Duty and Reserve/Guard personnel. The comparisons reaching statistical significance, however, varied somewhat.

Table 29B shows the prevalence of Active-Duty personnel in need of formal depression evaluation. As was the case with Reserve/Guard personnel, symptoms of depression were more common among females (35.2%) than males (26.1%). This difference was significant in the Army (females, 43.1%; males, 31.1%), Navy (females, 30.7%; males, 21.2%), and Marine Corps (females, 40.7%; males, 30.4%). Notably, the overall prevalence of the need for further depression evaluation was significantly higher among Active-Duty personnel (27.4%) than among Reserve/Guard members (22.9%).

The findings on suicidal ideation among Active-Duty personnel were similar to those for Reserve/Guard personnel. Rates of suicidal ideation were low, and few significant sex differences were found. About 2% of Active-Duty personnel

reported that they had considered suicide within the past 2 months and in the past 3 to 12 months (1.6% and 2.2%, respectively), while 3% reported considering it in the past 13 to 24 months (3.1%). Among Active-Duty personnel, the only significant sex differences were that Army females (7.4%) were more likely than males (2.7%) to report having seriously considered suicide in the past 13 to 24 months, and Navy females were more likely than males to report having seriously considered suicide in the past 2 months (1.5% vs. 0.5%) and the past 3 to 12 months (2.0% vs. 1.1%). In addition to what is reported in this section, we examined the association between the need for further depression evaluation and suicidal ideation and found that depressed personnel were more likely to have considered suicide.

## 5.7 Social Support

Social support can have an important, long-term impact on how well military personnel function. To measure social support, we included a modified version of the Social Network Index, which is explained in more detail in Chapter 2 and by Berkman (1977), Berkman and Syme (1979), and Strawbridge (1995). The Social Network Index includes five questions: (1) "How many close friends do you have (people that you feel at ease with, can talk to about private matters, and can call for help)?" (2) "How many relatives do you have that you feel close to?" (3) "How many of these friends or relatives do you see at least once a month?" (4) "Are you a member of any social clubs or groups?" and (5) "Are you an active member of a church, temple, or other religious organization?" These five items then are scored, and the

**Table 29B Selected Mental Health Measures Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Depression<sup>a</sup></b>					
<b>Females</b>					
Depressed	43.1*	30.7*	40.7*	29.7	35.2*
Not depressed	56.9*	69.3*	59.3*	70.3	64.8*
<b>Males</b>					
Depressed	31.1*	21.2*	30.4*	22.3	26.1*
Not depressed	68.9*	78.8*	69.6*	77.7	73.9*
<b>Total</b>					
Depressed	32.8	22.4	31.0	23.7	27.4
Not depressed	67.2	77.6	69.0	76.3	72.6
<b>Personnel Who Seriously Considered Suicide</b>					
<b>Females</b>					
Within past 2 months	2.3	1.5*	1.2	2.1	2.0
3 to 12 months	3.0	2.0*	3.3	1.0	2.1
13 to 24 months	7.4*	3.7	5.7	1.3	4.2
<b>Males</b>					
Within past 2 months	2.6	0.5*	1.3	1.5	1.6
3 to 12 months ago	3.2	1.1*	4.0	1.1	2.2
13 to 24 months ago	2.7*	2.9	5.7	1.6	2.9
<b>Total</b>					
Within past 2 months	2.6	0.6	1.3	1.6	1.6
3 to 12 months ago	3.2	1.3	3.9	1.1	2.2
13 to 24 months ago	3.4	3.0	5.7	1.5	3.1

Note: Table entries are percentages. Standard errors are shown in Table 29BSE in Appendix D.

<sup>a</sup>Sex differences significant at  $p < .05$ .<sup>a</sup>Personnel are categorized as "depressed" or "not depressed" based on their scores on the CES-D (Center for Epidemiologic Studies—Depression), which is only an indicator of depression, not a clinical diagnosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

composite score is used as an indicator of social support. These findings are presented for Reserve/Guard personnel in Table 30A and for Active-Duty personnel in Table 30B.

Overall, about two-fifths of all Reserve/Guard personnel reported a high level of social support. About 30% of Reserve/Guard personnel reported medium levels of social support, and 29% reported low levels of social support. In general, males in the Reserve/Guard fared better than females in terms of social support. For example, males in the Army Reserve, Army National Guard, and Air Force Reserve had significantly greater levels of social support than their female counterparts (38.3% vs. 28.5%, 44.1% vs. 21.8%, and 51.4% vs. 30.9%, respectively). For the Reserve/Guard overall, we noted that more males reported high levels of social support (43.4%) compared to females (28.4%).

Although nearly all of the Reserve/Guard components showed at least one significant difference in comparisons of females and males, we found no significant differences in social support among Naval Reserve members. Air National Guard members indicated the most social support (48.9% with high levels of social support) while members of the Marine Corps Reserve indicated the least (23.6% with high levels of social support).

Roughly one-third of Active-Duty personnel reported each level of social support, a pattern that differed slightly from the pattern for the Reserve/Guard population. Akin to findings about social support among Reserve/Guard personnel, Active-Duty males fared better than their female counterparts in terms of social

support (see Table 30B). For example, males in the Army, Navy, and Air Force had significantly greater levels of social support than their female counterparts (30.2% vs. 20.6%, 34.4% vs. 22.6%, and 43.6% vs. 19.8%, respectively). For Active-Duty personnel overall, we noted that more males reported high and medium levels of social support (67.5%) compared to females (61.2%).

Although nearly all of the Active-Duty Services showed at least one significant difference when comparing females and males, we found no significant differences in social support among Marine Corps personnel. Air Force personnel indicated the most social support (39.3% with high levels of social support) while members of the Marine Corps personnel indicated the least (21.0% with high levels of social support).

Most of the Active-Duty Services showed at least one significant difference in comparisons of females and males, but we found no significant differences in social support among Marine Corps members.

## 5.8 Summary

This chapter investigated several psychosocial issues that may affect the readiness of the force, including (1) exposure to disaster and violence; (2) job stress; (3) life satisfaction; (4) positive and negative life events; (5) emotional, sexual, and physical abuse and treatment for abuse; (6) depression and suicidal ideation; and (7) social support. Key findings for each issue are discussed here.

**Table 30A Social Support Among Reserve/Guard Personnel**

Sex/Level	Army			Marine			Air			Total Reserve/Guard Personnel
	Army Reserve	National Guard	Naval Reserve	Corps Reserve	Force Reserve	National Guard				
<b>Females</b>										
High	28.5*	21.8*	37.6	24.1	30.9*	33.1*				28.4*
Medium	33.5	31.6	33.4	40.4	44.7*	30.2				33.8
Low	38.0	46.6*	29.0	35.4*	24.4	36.7*				37.7*
<b>Males</b>										
High	38.3*	44.1*	45.0	23.6	51.4*	51.9*				43.4*
Medium	32.6	29.6	31.0	31.5	25.6*	24.9				29.5
Low	29.1	26.3*	24.0	44.9*	22.9	23.2*				27.1*
<b>Total</b>										
High	35.9	41.8	43.6	23.6	47.1	48.9				41.1
Medium	32.8	29.8	31.4	31.9	29.7	25.7				30.2
Low	31.3	28.5	25.0	44.5	23.2	25.3				28.8

Note: Table entries are column percentages. Standard errors are shown in Table 30ASE in Appendix D.

\*Sex differences significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 30B Social Support Among Active-Duty Personnel**

Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Females</b>					
High	20.6*	22.6*	15.5	19.8*	20.6*
Medium	42.2	37.8	39.0	41.4*	40.6*
Low	37.2	39.6*	45.5	38.7*	38.8*
<b>Males</b>					
High	30.2*	34.4*	21.4	43.6*	33.5*
Medium	37.8	34.0	31.8	30.2*	34.0*
Low	32.1	31.6*	46.8	26.2*	32.5*
<b>Total</b>					
High	28.8	32.8	21.0	39.3	31.7
Medium	38.4	34.5	32.2	32.2	34.9
Low	32.8	32.7	46.8	28.5	33.4

Note: Table entries are column percentages. Standard errors are shown in Table 30BSE in Appendix D.

\*Sex differences significant at  $p < .05$ .

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

- Findings about exposures to disaster and violence indicated that females in nearly all Reserve/Guard components and Active-Duty Services were significantly less likely than their male counterparts to suffer exposure to natural disasters, combat or violence, or accidents. With the continually expanding role of females in the Military, it is likely that more females will face these types of exposure.
- Of the different aspects of job stress, stress from responsibilities had the highest prevalence among the Reserve/Guard (31.9%); among Active-Duty personnel, job versus nonjob conflict (43.5%) was greater than the other sources of job stress. We examined overall job stress among Reserve/Guard and Active-Duty personnel and found that Active-Duty personnel were more likely to report a high level of overall job stress than Reserve/Guard members (45.0% vs. 27.8%). The downsizing of the Military may create more job stress. To alleviate this stress, the DoD could consider focusing on stress management, especially for Active-Duty personnel.
- Although about 77% of military personnel indicated that they were either “pleased” or “mostly satisfied” with their life as a whole, Reserve/Guard females were more likely than their male counterparts to have experienced many negative life events (15.5% vs. 8.3%). In addition, Navy personnel reported the fewest negative and positive life events.

- For emotional, sexual, and physical abuse among Reserve/Guard and Active-Duty personnel, we observed a striking finding: The prevalence of each type of abuse was significantly greater for females for almost every comparison with males. For personnel who had been abused, the prevalence of treatment or counseling was also significantly higher for females than males (37.6% vs. 21.6% for Reserve/Guard personnel; 32.6% vs. 19.1% for Active-Duty personnel). Given that some of the instances of abuse occurred since the abused personnel entered the Military, the DoD might consider intervening by providing education on abuse prevention and actively encouraging victims to seek counseling.
- We examined depressive symptoms among Reserve/Guard and Active-Duty personnel and found that the prevalence of need for further depression evaluation was significantly higher among Active-Duty personnel (27.4%) than among Reserve/Guard members (22.9%). Females were more likely than males to score as needing further depression evaluation. This was true for both Active-Duty and Reserve/Guard personnel. Given that many personnel were identified as needing further depression evaluation, it might be advisable to routinely screen all military personnel for depression.
- Rates of suicidal ideation among Reserve/Guard and Active-Duty personnel were low. Notably, however, Reserve/Guard females were more

likely than Reserve/Guard males to have considered suicide within the past 2 months. These findings further substantiate the need to screen personnel for depression.

- Surprisingly, males were significantly more likely than females to indicate high levels of social support. This was true for both Active-Duty and Reserve/Guard personnel overall (33.5% vs. 20.6% for Active-Duty; 43.4% vs. 28.4% for Reserve/Guard).

## 6. FEMALE HEALTH ISSUES

In this chapter, we focus on various female health issues. Gynecological history is discussed, including age at first menstruation and first live birth, as well as females' use of birth control pills and replacement estrogens. Pregnancy status, childbearing history, and menstrual issues, such as premenstrual pain, pain during menstruation, menstrual timing, and duration of menstrual flow, are addressed. Gynecological conditions, such as abdominal pain, vaginal infections, and other vaginal disorders, also are discussed in this chapter. Females' health screening practices, including receipt of Pap smears, breast examinations by a health care provider, and breast self-examination, are additional topics that are addressed.

### 6.1 Gynecological History

A number of gynecological issues are presented in Tables 31A and 31B. Among Reserve/Guard personnel, many females reported that their first menstruation (i.e., menarche) occurred when they were 10 to 12 years old (46.8%). Almost as many females reported that menarche happened between the ages of 13 and 15 (43.3%), for a total of about 90% experiencing first menstruation within the age range of 10 to 15 years. Reserve/Guard females also were asked about their age at first live birth. A majority of the females indicated that they were aged 21 to 30, with the next most frequently reported age range being 17 to 20. Approximately 86% of Reserve/Guard females reported their

first live birth between ages 17 and 30, with 4% reporting younger ages and 10% reporting older ages.

Reserve/Guard females also were asked about their use of birth control pills and replacement estrogens (i.e., hormone replacement therapy). About one-quarter of these females reported taking birth control pills for less than 1 year or not at all. An estimated 38% indicated that they had taken an oral contraceptive for 1 to 4 years, and the rest were about equally divided between the categories of 5 to 8 years and 9 or more years. Females in the Marine Corps Reserve (34.8%) and Army National Guard (31.9%) reported taking birth control pills for zero years more frequently than other Reserve/Guard components. Personnel were asked if they had taken replacement estrogens in the past 30 days, and about 8% reported affirmatively. Females in the Naval Reserve and Air Force Reserve reported taking replacement estrogens at the highest levels (13.1% and 10.1%, respectively). Only about 1% of Marine Corps Reserve females said that they took replacement estrogens in the past 30 days.

Active-Duty personnel also were asked about age at first menstruation and age at first live birth (presented in Table 31B). Most frequently, females reported their menarche at ages 13 to 15 years (46.7%). The next most frequent response was ages 10 to 12 (43.9%). About 91% of females reported that menarche happened within the age range of 10 to 15 years. Regarding age at first live

**Table 31A Gynecological History Among Reserve/Guard Personnel**

History	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Force Reserve	Total Reserve/Guard Personnel
<b>Age of First Menstruation</b>								
9 or younger	2.4	1.5	2.8	2.0	0.7	1.8	1.9	
10 to 12 years old	46.7	52.0	44.7	46.6	42.2	42.0	46.8	
13 to 15 years old	38.9	42.4	42.8	42.7	52.7	49.8	43.3	
16 years or older	10.5	3.1	7.8	7.8	4.0	5.6	6.7	
Don't know	1.5	1.0	1.9	0.9	0.4	0.9	1.2	
<b>Age at First Live Birth</b>								
12 or younger	0.1	0.1	1.1	**	**	0.3	0.3	
13 to 16 years old	2.2	4.4	7.0	5.0	3.0	2.8	3.6	
17 to 20 years old	27.5	42.0	24.9	19.1	28.3	26.2	30.7	
21 to 30 years old	59.9	46.9	58.1	61.0	50.5	60.9	55.3	
31 to 40 years old	10.3	6.6	8.8	14.9	18.2	9.8	10.1	
Over 40 years old	**	**	**	**	**	**	**	
<b>Total Number of Years Taking Birth Control Pills</b>								
0 years	25.8	31.9	16.2	34.8	15.3	17.2	24.3	
1 to 4 years	38.9	39.1	37.3	33.7	40.9	32.0	38.0	
5 to 8 years	16.4	14.5	18.5	20.2	19.8	25.3	17.7	
9 or more years	18.9	14.5	28.0	11.2	24.1	25.5	20.0	
<b>Taken Replacement Estrogens in the Past 30 Days</b>								
Yes	6.8	5.2	13.1	1.3	10.1	7.6	7.5	
No	93.2	94.8	86.9	98.7	89.9	92.4	92.5	

Note: Table entries are column percentages. Standard errors are shown in Table 31ASE in Appendix D.

\*\* Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 31B Gynecological History Among Active-Duty Personnel**

History	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Age of First Menstruation</b>					
9 or younger	3.2	3.1	1.5	0.5	2.2
10 to 12 years old	41.2	45.6	43.3	45.5	43.9
13 to 15 years old	47.7	44.2	49.2	47.3	46.7
16 years or older	7.3	6.3	5.6	5.4	6.3
Don't know	0.5	0.9	0.4	1.3	0.9
<b>Age at First Live Birth</b>					
12 years old or younger	**	**	**	**	**
13 to 16 years old	4.3	2.0	2.2	1.1	2.6
17 to 20 years old	33.8	28.3	31.7	26.3	29.8
21 to 30 years old	54.6	61.0	60.4	63.7	59.5
31 to 40 years old	7.1	8.6	5.6	8.8	8.0
Over 40 years old	0.1	0.2	0.1	**	0.1
<b>Total Number of Years Taking Birth Control Pills</b>					
0 years	23.5	19.0	26.7	18.7	20.9
1 to 4 years	41.1	41.6	40.4	30.3	37.5
5 to 8 years	16.4	22.0	20.2	25.9	21.3
9 or more years	19.0	17.4	12.7	25.0	20.3
<b>Taken Replacement Estrogens in the Past 30 Days</b>					
Yes	3.4	3.2	2.0	4.8	3.7
No	96.6	96.8	98.0	95.2	96.3

Note: Table entries are column percentages. Standard errors are shown in Table 31BSE in Appendix D.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

birth, most Active-Duty females reported 21 to 30 years (59.5%). About 30% of Active-Duty females said that their first live birth occurred at 17 to 20 years of age. About 8% of Active-Duty females reported a first birth when they were 31 or older and 3% between the ages of 13 and 16.

Lifetime use of birth control pills and past 30 day use of replacement estrogens also were determined for Active-Duty females. About 21% said that they took birth control pills for less than 1 year or not at all. The most frequent response to this question was 1 to 4 years, with about 38% of Active-Duty females responding this way. Over one-fifth of females reported 5 to 8 years of use, and about one-fifth said they had used birth control pills for 9 or more years. When asked about replacement estrogen use in the past 30 days, less than 4% of females reported such use. Responses among the Active-Duty Services ranged from 2% (Marine Corps) to nearly 5% (Air Force).

Age at first menstruation was similar for Reserve/Guard and Active-Duty personnel. Overall responses for age at first live birth and number of years taking birth control pills also were similar. Female personnel in the Reserve/Guard were significantly more likely than those on Active-Duty to have taken replacement estrogens in the past 30 days.

reported that they had been pregnant since joining the Military. Females in the Naval Reserve (62.5%) reported that they had been pregnant since joining the Military less frequently than females in the other Reserve/Guard components, whereas Marine Corps Reserve females (93.3%) reported it more frequently. When asked whether they were pregnant at the time of the survey, about 3% of Reserve/Guard females responded affirmatively. This varied within the personnel groupings from just under 2% (Army National Guard) to a little more than 7% (Marine Corps Reserve).

Personnel were asked their history of live births and of infants who were premature or low birth weight (i.e., weighing less than 5 pounds). Approximately 10% of Reserve/Guard females reported no live births, and about one-third each reported one and two live births. Three, four, and five or more births were reported less frequently (16.3%, 5.6%, and 1.8%, respectively). Having had three or more live births was reported with the highest frequency among the Army National Guard (31.7%), and with the lowest frequency among the Army Reserve (15.6%). Reserve/Guard females reported having had a premature baby or one weighing less than 5 pounds at a frequency of about 11%. This varied from 7% (Air National Guard) to about 15% (Army National Guard).

About 87% of Active-Duty females reported being pregnant since joining the Military (see Table 32B). Just over 11% reported being pregnant at the time of the survey, ranging from 7% (Navy) to 15% (Army). An estimated 14% of Active-Duty females said that they had no live births, with females in the Navy (3.3%) and Marine Corps (4.0%) reporting no live births less frequently than

**6.2 Pregnancy Status and Childbirth History**  
Pregnancy status and childbirth history are presented in Tables 32A and 32B. Among Reserve/Guard females, about 78%

**Table 32A Pregnancy Status and Childbirth History Among Reserve/Guard Females**

Status or History	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Force Reserve	Total Reserve/Guard Personnel
<b>Been Pregnant Since Joining the Service</b>								
Yes	81.4	76.7	62.5	93.3	81.2	84.7	78.1	
No	18.6	23.3	37.5	6.7	18.8	15.3	21.9	
<b>Currently Pregnant</b>								
Yes	2.9	1.7	3.9	7.2	3.0	2.1	2.7	
No	96.7	98.3	96.0	92.8	96.6	97.6	97.1	
Not sure	0.4	**	0.2	**	0.4	0.3	0.2	
<b>Number of Live Births</b>								
0 births	12.9	11.2	7.1	18.4	10.1	2.8	10.0	
1 birth	34.5	29.1	26.0	35.4	35.8	35.4	32.2	
2 births	37.1	28.0	44.0	29.0	28.3	33.7	34.1	
3 births	11.4	19.7	14.5	13.0	19.4	21.7	16.3	
4 births	3.1	8.6	5.6	0.7	6.2	5.5	5.6	
5 or more births	1.1	3.4	2.8	3.6	0.2	1.0	1.8	
<b>Ever Had a Premature Baby or a Baby Weighing Less Than 5 Pounds<sup>a</sup></b>								
Yes	9.2	15.4	13.7	11.2	9.8	7.0	11.3	
No	90.8	84.6	86.3	88.8	90.2	93.0	88.7	

Note: Table entries are column percentages. Standard errors are shown in Table 32ASE in Appendix D.

\*\*Low precision.

<sup>a</sup>Among females who have been pregnant.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 32B** Pregnancy Status and Childbirth History Among Active-Duty Females

Status/History	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Been Pregnant Since Joining the Service</b>					
Yes	86.3	85.7	94.1	88.3	87.1
No	13.7	14.3	5.9	11.7	12.9
<b>Currently Pregnant</b>					
Yes	14.5	7.1	9.3	10.9	11.3
No	84.8	91.0	88.0	89.1	87.8
Not sure	0.7	1.9	2.7	**	0.8
<b>Number of Live Births</b>					
0 births	16.3	3.3	4.0	19.0	13.5
1 births	39.9	53.9	57.3	40.3	44.2
2 births	34.3	31.8	29.2	28.0	31.4
3 births	6.8	9.0	7.4	10.7	8.7
4 births	2.4	1.5	1.9	1.4	1.8
5 or more births	0.2	0.6	0.2	0.6	0.4
<b>Given Enough Time Off Military Job to See an OB/GYN When Pregnant<sup>a</sup></b>					
Yes	81.3	85.7	85.1	81.9	82.6
No	18.7	14.3	14.9	18.1	17.4
<b>Ever Had a Premature Baby or a Baby Weighing Less than 5 Pounds<sup>a</sup></b>					
Yes	12.5	12.3	10.4	11.0	11.9
No	87.5	87.7	89.6	89.0	88.1

Note: Table entries are column percentages. Standard errors are shown in Table 32BSE in Appendix D.

\*\*Low precision.

<sup>a</sup>Among females who have been pregnant.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

those in the Army (16.3%) and Air Force (19.0%). Three-quarters of Active-Duty females reported either one or two live births, and about 11% reported three or more. About 12% of female personnel said that they had given birth to a premature baby or one weighing less than 5 pounds.

Active-Duty personnel were asked whether they were given enough time off their military job to see an obstetrician when they were pregnant. Among those who had been pregnant since joining the Military, approximately 83% reported that they had been given enough time off to go to an OB/GYN. Estimates of having enough time off from work to see an OB/GYN during pregnancy are not presented for Reserve/Guard personnel given that these women hold civilian jobs and that this report focuses on military operations amenable to intervention.

Reserve/Guard personnel were significantly less likely to have been pregnant since joining the Military compared to those on Active-Duty. They also were significantly less likely to report being pregnant at the time of the survey. Having had zero live births was not significantly different between Reserve/Guard personnel compared to Active-Duty females. There did appear to be a trend toward a greater number of births among those on Reserve/Guard duty, with about 24% reporting three or more live births compared to 11% of those on Active-Duty. Reports of having premature or low birth weight babies did not differ between females of Reserve/Guard versus Active-Duty status.

### 6.3 Menstrual Conditions

Females were asked about various menstrual conditions that had occurred during the 3 months preceding the survey, as presented in Tables 33A and 33B. Those who had received a hysterectomy or were currently pregnant were excluded from the analysis. About 69% of Reserve/Guard females reported experiencing premenstrual symptoms or pain, and approximately 30% had cramps or pain during menstruation that required medication or time off from work. Reports of cramps ranged from about 20% (Marine Corps Reserve) to 35% (Army Reserve).

Problems with the uterus (excluding endometriosis) were experienced by about 3% of Reserve/Guard females.

Reserve/Guard females were asked about menstrual flow and timing over the preceding 3 months. Heavy periods were reported by about 38%, and light periods were reported by 35%.

Reports of light periods varied among Reserve/Guard components; they were experienced by about one-quarter of those in the Naval Reserve and Air Force Reserve, but by almost half of the females in the Army National Guard. About 15% of Reserve/Guard female personnel reported that they had a period that lasted longer than 1 week during the preceding 3 months. Females in the Air National Guard (17.3%) and the Army Reserve (17.1%) were most likely to report having long periods. About 14% of Reserve/Guard females had missed a period, with reports among the Reserve/Guard components ranging from 8% (Air Force Reserve) to 19% (Army Reserve). Approximately 13% had no menstrual period for 2 of the 3 months. An estimated 9% had too many periods over the

**Table 33A Menstrual Conditions Among Reserve/Guard Females in the Past 3 Months**

Condition	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Premenstrual Symptoms or Pain (PMS)</b>	68.4	74.4	64.8	68.2	67.3	65.9	69.3
<b>Cramps or Pain During Menstruation That Required Medication or Time off Work</b>	35.1	29.1	25.8	20.4	28.9	24.9	30.1
<b>Heavy Periods</b>	36.9	41.1	32.7	35.4	40.6	36.5	38.0
<b>Light Periods</b>	31.1	47.8	24.9	31.5	25.7	32.1	34.7
<b>One Missed Period</b>	18.6	14.2	11.5	14.0	7.6	10.8	14.3
<b>No Menstrual Period for 2 Months</b>	13.3	15.4	12.3	14.1	7.5	14.3	13.3
<b>Menstrual Period That Lasts More than 1 Week</b>	17.1	15.4	9.2	13.3	14.7	17.3	15.4
<b>Too Many Periods (Short Time Between Periods)</b>	10.3	9.0	6.6	10.8	6.8	9.0	9.0
<b>Bleeding Between Periods</b>	12.5	12.5	6.6	10.3	7.3	10.6	11.0
<b>Problems with Uterus<sup>a</sup></b>	2.0	3.1	4.4	2.7	3.7	2.3	2.8

Note: Table entries are percentages of all females except those who have had hysterectomies and those who reported being currently pregnant. Standard errors are shown in Table 33ASE in Appendix D.

<sup>a</sup>Other than endometriosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

preceding 3 months (i.e., a short time between periods), and 11% reported bleeding between periods, with the highest frequency of this condition reported in the Army Reserve and Army National Guard (12.5% each).

Active-Duty females also reported having had premenstrual symptoms or pain over the preceding 3 months at a frequency of approximately 69%. Reports of these premenstrual problems were highest among Air Force (73.1%) and Army (70.8%) personnel. Cramps or pain during menstruation that required medication or time off work occurred in about one-quarter of Active-Duty females. Problems with the uterus other than endometriosis were reported by 3% of Active-Duty females. Over 5% of females in the Army reported uterine problems compared with less than 1% of Air Force females.

About 36% of Active-Duty females had heavy periods over the 3 months prior to the survey, and almost 45% of Army females reported this problem. Light periods were experienced by about 31% of Active-Duty females, with Air Force (41.3%) and Army (35.5%) females reporting light periods at a much higher frequency than those in the Navy (14.6%) and Marine Corps (15.3%). About 18% of Active-Duty females reported that they had a period lasting more than 1 week in the preceding 3 months. Approximately 23% of Army females experienced this symptom compared with 12% of Navy females. Approximately 17% of Active-Duty females had missed one period over the preceding 3 months, and 16% had missed a period for 2 of the 3 months. About 12% said that they had too many periods (i.e., short time between periods), and 15%

reported bleeding between periods. The latter symptom was reported more frequently among Marine Corps (23.6%) and Army Guard (19.0%) personnel.

Reports of cramps or pain during menstruation that required medication or time off work were significantly more frequent among Reserve/Guard females (30.1%) compared to Active-Duty females (24.5%). Bleeding between periods was reported significantly more frequently among Active-Duty females (15.4%) as opposed to those in the Reserve/Guard (11.0%). Results for the remaining menstrual conditions were similar for both the Active-Duty Services and the Reserve/Guard components.

## 6.4 Gynecological Conditions

In the context of a females' health section in the questionnaires, females were asked to report on abdominal pain in the past 3 months, both from known cysts and from unknown sources. These results are presented in Tables 34A and 34B. Among Reserve/Guard females, about 5% reported abdominal pain from known cysts, and 23% said that they had this type of pain from unknown causes. Abdominal pain from unknown causes varied somewhat across Reserve/Guard components, ranging from about 13% (Air Force Reserve) to 27% (Army National Guard).

Females also were asked about their past 3 month history of yeast or vaginal infection, vaginal rash, discharge, or other gynecological disorder. Over this time period, about 22% of Reserve/Guard females reported having had a yeast or vaginal

**Table 33B Menstrual Conditions Among Active-Duty Females in the Past 3 Months**

Condition	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Premenstrual Symptoms or Pain (PMS)</b>	70.8	61.6	62.3	73.1	68.8
<b>Cramps or Pain During Menstruation That Required Medication or Time Off Work</b>	26.6	28.0	23.1	19.9	24.5
<b>Heavy Periods</b>	44.5	26.0	27.2	36.7	36.2
<b>Light Periods</b>	35.5	14.6	15.3	41.3	31.1
<b>One Missed Period</b>	14.9	18.0	23.5	17.7	17.1
<b>No Menstrual Period for 2 Months</b>	18.1	14.8	19.0	14.3	16.0
<b>Menstrual Period That Lasts More Than 1 Week</b>	23.4	12.4	17.7	17.5	18.3
<b>Too Many Periods (Short Time Between Periods)</b>	15.9	9.7	11.3	8.9	11.7
<b>Bleeding Between Periods</b>	19.0	16.2	23.6	9.8	15.4
<b>Problems with Uterus<sup>a</sup></b>	5.1	3.0	3.8	0.7	3.0

Note: Table entries are percentages of all females except those who have had hysterectomies and those who reported being currently pregnant. Standard errors are shown in Table 33BSE in Appendix D.

<sup>a</sup>Other than endometriosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 34A Gynecological Conditions Among Reserve/Guard Females in the Past 3 Months**

Condition	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
Abdominal Pain from Known Cysts	5.5	5.6	4.7	6.3	4.7	4.3	5.2
Abdominal Pain from Unknown Causes	25.2	26.6	15.7	16.8	12.5	22.3	22.6
Yeast or Vaginal Infection	22.1	24.9	18.2	23.0	22.8	17.2	21.9
Vaginal Rash, Discharge, or Other Disorder <sup>a</sup>	10.0	12.3	8.7	7.7	5.2	7.2	9.6

Note: Table entries are percentages. Standard errors are shown in Table 34ASE in Appendix D.

<sup>a</sup>Excludes yeast infection and sexually transmitted disease.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

infection. When asked whether they had experienced a vaginal rash, discharge, or other disorder except yeast infection or sexually transmitted disease, approximately 10% of Reserve/Guard females responded affirmatively. Army National Guard females were more than twice as likely as Air Force Reserve females to report the same (12.3% vs. 5.2%).

Active-Duty females also were asked about abdominal pain from known cysts and unknown causes. For known cysts, about 5% responded affirmatively, ranging from 4% in the Air Force to 9% in the Marine Corps. Abdominal pain from unknown causes over the past 3 months was reported by about 26% of Active-Duty personnel.

Having had a yeast or vaginal infection in the past 3 months was reported by an estimated 27% of Active-Duty females. About 10% of Active-Duty females reported vaginal rash, discharge, or other disorder excluding yeast infection and sexually transmitted disease. The percentage of Marine Corps females reporting this problem was about two times that of Air Force females.

Estimates for abdominal pain from known cysts and from unknown causes were similar for Reserve/Guard and Active-Duty personnel. Yeast or vaginal infection in the past 3 months was reported at a significantly higher rate among Active-Duty compared to Reserve/Guard personnel (26.4% vs. 21.9%). Having had a vaginal rash, discharge, or other disorder was reported at about the same rate for both the Active-Duty Services and the Reserve/Guard components.

## 6.5 Cervical Health and Cancer Screening

Issues related to cervical health and cancer screening are presented in Tables 35A and 35B. Military females who had not reported having a hysterectomy were asked the time since their most recent Pap smear. An estimated 71% of Reserve/Guard personnel said that they had received a Pap smear in the year preceding the survey, 22% said that they had last received one more than 1 year ago but in the preceding 3 years, and 3% said that they last had one more than 3 years ago (see Table 35A). The remaining percentage (3.8%) reported that they never had a Pap smear. Having had a Pap smear in the 3 years preceding the survey was reported by about 93% of all Reserve/Guard females.

These females also were asked whether they had ever had a Pap smear result that was not normal. About 64% responded “no,” 1% said “yes,” and 34% reported that they did not know. The percentage of females who reported having had an abnormal Pap smear varied across the Reserve/Guard components; Air National Guard (0.1%) and Air Force Reserve (0.4%) females reported abnormal Pap smear results very infrequently, whereas Army Reserve (1.9%) females reported these results at a much higher frequency. Not knowing whether one ever had an abnormal result ranged from about 27% in the Air Force Reserve to 43% in the Air National Guard.

Approximately 77% of Active-Duty females reported having had a Pap smear in the year preceding the survey. Having had the test more than 1 year ago but in the preceding 3 years was

**Table 34B Gynecological Conditions Among Active-Duty Females in the Past 3 Months**

Condition	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Abdominal Pain from Known Cysts</b>	5.1	5.3	8.5	4.2	5.0
<b>Abdominal Pain from Unknown Causes</b>	31.1	23.2	27.2	22.4	25.9
<b>Yeast or Vaginal Infection</b>	31.9	23.7	28.6	22.4	26.4
<b>Vaginal Rash, Discharge, or Other Disorder<sup>a</sup></b>	12.9	9.6	14.9	7.1	10.2

Note: Table entries are percentages. Standard errors are shown in Table 34BSE in Appendix D.

<sup>a</sup>Excludes yeast infection and sexually transmitted disease.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 35A Cervical Health and Cancer Screening Among Reserve/Guard Females**

Screening	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Time Since Last Pap Smear<sup>a</sup></b>								
Less than 1 year ago	66.0	70.9	74.3	72.4	71.8	81.1	71.0	
More than 1 year ago, but within the past 3 years	24.5	20.2	22.2	23.0	23.4	17.0	21.9	
3 years or more	5.1	2.4	3.3	2.9	2.9	0.9	3.3	
Never	4.4	6.5	0.2	1.7	1.9	1.0	3.8	
<b>Ever Had an Abnormal Pap Smear<sup>b</sup></b>								
Yes	1.9	1.7	1.7	1.5	0.4	0.1	1.4	
No	65.3	65.9	56.2	63.8	72.4	57.4	64.2	
Don't know	32.8	32.4	42.2	34.8	27.2	42.5	34.4	

Note: Table entries are column percentages. Standard errors are shown in Table 35ASE in Appendix D.

<sup>a</sup>Percentages are based on all females except those who have had hysterectomies.<sup>b</sup>Percentages are based on all females.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

reported by about 19% of Active-Duty females, having one more than 3 years ago by 3%, and never having had a Pap smear by 1%. Having had a Pap smear in the preceding 3 years was reported by approximately 96% of Active-Duty females. About 2% of Army females reported never having had a Pap smear, more than double the frequency in the other Active-Duty Services. Having ever had an abnormal Pap smear was reported by a little more than 1% of Active-Duty females. An estimated 60% of Active-Duty females reported never having an abnormal result, and 39% did not know whether they ever had an abnormal result.

Active-Duty females were significantly more likely to have had a Pap smear in the year preceding the survey compared to those in the Reserve/Guard (76.9% vs. 71.0%). Those on Active-Duty were significantly less likely than Reserve/Guard females to report having never had a Pap smear (1.1% vs. 3.8%). Results regarding the history of abnormal Pap smears were similar.

## 6.6 Breast Health, Breast Cancer Screening, and Other Early Detection Behavior

Breast health, breast cancer screening, and other early detection behavior are presented in Tables 36A and 36B. Females were asked about having their breasts examined by a medical provider and about performing breast self-examinations. Among Reserve/Guard females, approximately 71% indicated that they had received a breast exam in the preceding year, 22% in the preceding 3 years, and 5% more than 3 years or more prior to the survey (see Table 36A). An estimated 3% reported that they had never had a

breast exam by a medical provider. Rates of never having had a breast exam by a medical provider were lower among female personnel in the Air Force Reserve (0.1%), Air National Guard (0.3%), and Naval Reserve (0.5%) and higher among those in the Army National Guard (4.2%), Army Reserve (4.7%), and Marine Corps Reserve (5.6%). About 90% of females in the Reserve/Guard reported receiving training from a medical provider on how to perform a breast self-examination. About 39% reported performing these exams monthly, 34% said they did them every few months, and 27% responded that they rarely or never performed breast self-examinations.

Items about breast discharge and history of breast lumps also were included in the questionnaires. Females were asked if they had discharge from their breast in the past 3 months, and about 5% responded affirmatively. Those in the Army Reserve (6.4%) and the Army National Guard (5.6%) had relatively high reports of breast discharge. About 7% of Reserve/Guard females said that they had a breast lump in the past 3 months; responses varied from 4% in the Naval Reserve to higher rates of 9% in the Army Reserve and the Air Force Reserve. About 7% of Reserve/Guard female personnel said that they had been operated on to remove a breast lump that was found to be non-cancerous.

About three-quarters of Active-Duty females said that they had a breast exam by a medical provider in the year preceding the survey. About 20% reported having had an exam more than 1 but less than 3 years ago. Approximately 4% indicated their last breast exam by a provider was 3 years or more prior to the survey, while

**Table 35B Cervical Health and Cancer Screening Among Active-Duty Females**

Screening	Army	Navy	Marine Corps	Air Force	Total Reserve/Guard Personnel
<b>Time Since Last Pap Smear<sup>a</sup></b>					
Less than 1 year ago	77.3	71.8	79.6	79.7	76.9
More than 1 year ago, but within the past 3 years	16.3	26.5	18.1	17.1	19.3
3 years or more	4.2	1.7	1.5	2.3	2.8
Never	2.1	**	0.8	0.9	1.1
<b>Ever Had an Abnormal Pap Smear<sup>b</sup></b>					
Yes	1.0	1.6	1.9	1.3	1.3
No	59.3	58.7	58.6	61.8	60.0
Don't know	39.7	39.7	39.5	36.9	38.7

Note: Table entries are column percentages. Standard errors are shown in Table 35BSE in Appendix D.

\*\* Low precision.

<sup>a</sup>Percentages are based on all females except those who have had hysterectomies.

<sup>b</sup>Percentages are based on all females.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 36A Breast Health, Breast Cancer Screening, and Other Early Detection Behavior Among Reserve/Guard Females**

Measure/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Females
<b>Time Since Last Breast Exam by a Medical Provider</b>							
Less than 1 year ago	67.7	68.4	72.2	70.8	76.2	76.8	70.6
More than 1 year ago, but within the past 3 years	20.4	24.0	22.2	21.3	21.6	19.9	21.7
3 years or more	7.2	3.5	5.1	2.2	2.1	3.0	4.7
Never	4.7	4.2	0.5	5.6	0.1	0.3	3.0
<b>Ever Received Training from a Medical Provider on How to Perform a Breast Self-Exam</b>							
Yes	91.7	85.1	92.9	89.1	93.4	93.5	90.4
No	8.3	14.9	7.1	10.9	6.6	6.5	9.6
<b>Frequency of Breast Self-Exam</b>							
Monthly	45.1	32.4	44.6	33.3	31.3	40.1	39.2
Once every few months	27.9	37.2	32.5	35.7	46.9	36.1	34.3
Rarely or never	27.0	30.4	22.9	31.0	21.8	23.7	26.5
<b>Discharge from Breast in Past 3 Months</b>							
Yes	6.4	5.6	2.3	2.3	2.5	2.5	4.7
No	93.6	94.4	97.7	97.7	97.5	97.5	95.3
<b>Breast Lump in Past 3 Months</b>							
Yes	8.8	7.6	3.5	6.1	9.3	4.6	7.3
No	91.2	92.4	96.5	93.9	90.7	95.4	92.7
<b>Ever Had an Operation to Remove a Breast Lump That Was Found to Be Non-Cancerous</b>							
Yes	6.2	7.6	7.8	3.3	5.8	6.3	6.7
No	93.8	92.4	92.2	96.7	94.2	93.7	93.3

Note: Table entries are percentages. Standard errors are shown in Table 36ASE in Appendix D.

Source: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

only 2% said that they had never received a breast exam by a medical provider. Air Force females were most likely to report having had a breast exam by a medical provider in the preceding year (80.1%) and least likely to report having never had one (0.9%), compared to other Active-Duty Services. About 91% of Active-Duty females reported having received training on how to perform a breast self-examination by a medical provider. About 41% said that they performed these exams monthly, 35% said once every few months, and 24% said that they rarely or never performed them.

Discharge from the breast in the past 3 months was reported by about 7% of Active-Duty females. Marine Corps (9.1%) and Army (7.2%) had relatively high rates of recent breast discharge. Breast lumps in the past 3 months occurred at a frequency of approximately 6% among Active-Duty females, with Army females (6.4%) having the highest reports and Marine Corps females (3.4%) having the lowest reports of such lumps. About 6% of Active-Duty females said that they had an operation to remove a breast lump that was determined to be non-cancerous.

months. Having had an operation to remove a breast lump that was found to be non-cancerous also was reported at a similar rate.

## 6.7 Summary

This chapter investigated several health issues pertinent to military females. Highlights for these issues are discussed in the following.

- Active-Duty and Reserve/Guard females were similar in the duration that they used birth control pills, with over three-quarters of females having some history of taking oral contraceptives. Female personnel in the Reserve/Guard were significantly more likely than those on Active-Duty to have taken replacement estrogens in the past 30 days (7.5% vs. 3.7%). Given that Reserve/Guard personnel tend to be older than Active-Duty personnel, it is not unexpected to observe higher percentages of Reserve/Guard females taking replacement estrogens.
- The majority of military females (55.3% for Reserve/Guard and 59.5% for Active-Duty) experienced their first childbearing between the ages of 21 and 30. About 78% of Reserve/Guard females and 87% of Active-Duty females reported having been pregnant since joining the Military. Reserve/Guard personnel were significantly less likely than those on Active-Duty to have been pregnant since joining the Military. They also were significantly less

**Table 36B Breast Health, Breast Cancer Screening, and Other Early Detection Behavior Among Active-Duty Females**

Measure/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Time Since Last Breast Exam by a Medical Provider</b>					
Less than 1 year ago	73.1	71.3	73.7	80.1	75.1
More than 1 year ago, but within the past 3 years	19.3	24.8	20.8	15.6	19.5
3 years or more	4.6	2.6	3.2	3.4	3.6
Never	3.0	1.3	2.3	0.9	1.8
<b>Ever Received Training from a Medical Provider on How to Perform a Breast Self-Exam</b>					
Yes	90.9	90.2	89.5	91.2	90.7
No	9.1	9.8	10.5	8.8	9.3
<b>Frequency of Breast Self-Exam</b>					
Monthly	43.8	41.7	36.7	38.8	41.2
Once every few months	33.2	35.1	32.5	36.3	34.7
Rarely or never	23.0	23.2	30.8	24.9	24.1
<b>Discharge from Breast in Past 3 Months</b>					
Yes	7.2	5.2	9.1	6.1	6.5
No	92.8	94.8	90.9	93.9	93.5
<b>Breast Lump in Past 3 Months</b>					
Yes	6.4	5.2	3.4	5.6	5.7
No	93.6	94.8	96.6	94.4	94.3
<b>Ever Had an Operation to Remove a Breast Lump That Was Found to Be Non-Cancerous</b>					
Yes	4.6	6.0	4.5	6.8	5.7
No	95.4	94.0	95.5	93.2	94.3

Note: Table entries are percentages. Standard errors are shown in Table 36BSE in Appendix D.

Source: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

- Likely to report being pregnant at the time of the survey (2.7% vs. 11.3%). Given the increasing numbers of young females entering the Military, encouraging females to seek prenatal care is vital to proper maternal and infant health.

- When asked about menstrual and gynecological conditions experienced in the 3 months preceding the survey, military females were more likely to report the following conditions than other conditions: premenstrual symptoms or pain, cramps or pain during menstruation that required medication or time off work, heavy periods, light periods, abdominal pain (from unknown causes), and yeast or vaginal infection. About 70% of military females reported premenstrual symptoms or pain, while cramps or pain during menstruation that required medication or time off work ranged from approximately 20% to 35% of military females. Yeast or vaginal infection was reported at a significantly higher rate among Active-Duty compared to Reserve/Guard personnel (26.4% vs. 21.9%).

- Having had a breast exam by a medical provider in the past year was reported by more than 70% of military females. Active-Duty females were significantly more likely than Reserve/Guard females to have had one in the past year (75.1% vs. 70.6%). Having ever received training on how to perform a breast self-examination was reported at a similar frequency, with about 90% of females reporting such training. About 40% of military females reported that they perform breast self-examination on a monthly basis. Although it is noteworthy that many females have had a breast exam by a provider, self-breast examination also is crucial to early detection of breast cancer. Given that such a high percentage of women have received training in breast self-examination, education efforts could encourage performing it routinely.

- Active-Duty females were significantly more likely than Reserve/Guard females to have had a Pap smear in the past year (76.9% vs. 71.0%), but receipt of Pap smears was high among females in all segments of the Military. These rates of Pap smears are commendable and could be one of the main reasons the prevalence of cervical cancer was low among military females.

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**APPENDIX A**

**SAMPLING DESIGN**

**AND SURVEY PERFORMANCE RATES**

## APPENDIX A

### SAMPLING DESIGN AND SURVEY PERFORMANCE RATES

In this appendix, we describe the activities used to create the sampling design for the 1998 Health Status of Military Women and Men in the Total Force, also referred to as the Total Force Health Assessment. The activities include the identification of the sampling frame, creation of the allocation, and selection of the sample. We also describe the survey performance rates, including the contact, eligibility, and response rates.

#### A.1 Sampling Frame

The sample for the study was selected using a stratified random sampling design. Source information for constructing the sampling frame consisted of person-level records from the Active Duty Master File (ADMF) and the Reserve Components Common Personnel Data System (RCCPDS). The source information was provided by the Defense Manpower Data Center (DMDC). The sampling frame information used to develop the sampling design was current for May 1998. Per instructions from staff at the Research Triangle Institute (RTI), the DMDC selected the sample from the June 1998 files.

#### A.2 Sample Allocation and Selection

Key reporting domains were identified to form the basis of the design. A total of 66 domains were defined based on the variables listed in Table A1. Using essentially these same variables, a total of 162 strata were constructed to control the distribution of the sample with respect to the identified key domains.

A DMDC sample planning tool, developed by RTI staff, was used to develop the sample allocation (Mason et al., 1995). For design purposes, the objectives of the survey were to determine the total sample size and allocation (to the strata) that will satisfy precision constraints imposed on each of the domains while minimizing cost. To this end, equations were developed that described the variable survey cost (i.e., that part of the total cost that depends on the sample size and allocation) and the variances associated with parameter estimates within each reporting domain. The precision requirements took the form of the maximum value of the sampling variances associated with each parameter estimate.

For design purposes, the parameter estimates were taken to be domain proportions or prevalence estimates. To specify the domain-level precision constraints, both the value of the domain

**Table A1 Variables Used in the Construction of the Sampling Strata and the Reporting Domains for the 1998 Health Status of Military Women and Men in the Total Force**

Variable	Variable Value
Sex	Male Female
Service	Active Army Active Air Force Naval Reserve Marine Corps Reserve, Army National Guard, and Army Reserve (combined)
Pay Grade Group	Air National Guard and Air Force Reserve (combined)  Junior enlisted (E1-E5) Senior enlisted (E6-E9)
Race/Ethnicity	Warrant officers and company grade officers (W1-W5, O1-O3 combined) Field grade officers (O4-O11) Non-Hispanic White Non-Hispanic Black Hispanic, American Indian and Alaskan Native, Asian and Pacific Islander, and “other” race/ethnicity (combined) Within the Continental United States (CONUS) Outside the Continental United States (OCONUS)
Location	

The allocation solutions were obtained by setting all of the domain proportions to 0.10 and by requiring a confidence interval half-width of 0.034 for most of the domains. Stricter precision requirements were set for larger domains (e.g., a confidence interval half-width of 0.02 for total females). To obtain a total sample size that stays within the data collection budget for this work, precision constraints were removed for some very small domains. For example, the confidence interval half-width was removed for female warrant officers, representing only 0.09% of the inferential population. Those constraints found to have the most effect on the allocation solutions were those imposed on females in the Marine Corps Reserve and the American Indian-Alaskan Native racial/ethnic group.

The solutions provide a disproportionate allocation of the total sample to the design strata. The allocation depends on the distribution of the identified key domains in each of the design strata, the stratum sizes, the specified domain-level precision constraints, and the variable survey costs in each of the strata. Over the entire design, a minimum of 22,325 observations were required to jointly satisfy the imposed constraints.

The allocation solutions are inflated to compensate for the expected response rates. Experience with surveys of military personnel has shown that response rates depend on a variety of factors in addition to the subject matter concerns and complexity of the questionnaire. These factors include sex, Service (i.e., Active-Duty Services and Reserve/Guard components), pay grade, and race/ethnicity, all of which were used in constructing the strata.

proportion and the maximum value of the variance were specified. Once the precision constraints were developed, the cost equation was minimized subject to the constraints placed on the variances.

The expected response rate for each of the design strata was determined based on our recent past experience with other military surveys. These rates range from a low of 18% (Marine Corps Reserve, junior enlisted, non-Hispanic black males) to a high of 75% (Active Air Force, warrant and company grade officers, Hispanic, American Indian-Alaskan Native, Asian-Pacific Islander males). Approximately, 22,325 completed questionnaires were expected to be obtained from a total sample size of 47,990 individuals given the distribution of the sample.

### A.3 Survey Performance Rates

Response rate information is useful for assessing the quality of survey field operations and for assessing nonresponse bias. The term “response rate” can be used for several different performance rates, each important from a survey operational perspective or from a statistical perspective. In the simplest of cases, the response rate can be calculated as the number of individuals in the population of inferential interest (i.e., those to whom you wish to generalize results) for whom information was obtained, divided by the total number of individuals in the population.

For Total Force, we computed three performance rates—a contact rate (82.4%), an eligibility rate (99.9%), and a response rate among contacted eligible sample members (38.0%). Data used to calculate for the rates and the estimates are shown in Table A2. The data are provided for six Service and Reserve/Guard categories and overall; the six categories correspond to the Service and Reserve/Guard levels used in the sampling design strata.

### A.3.1 Contact Rate

The contact rate is the percentage of sample members who received a questionnaire through the mail. It is our assumption that those questionnaires not returned with “Addresses Unknown” status were received by the intended individuals. We were unable to contact those with incorrect address information on the sampling frame and, for example, those who were transferred to another military base. The nonresponse of available individuals added another component to the total missing data or nonresponse bias potential. As shown in Table A2, the contact rate across the Total Force sample was 82.4%. The rate was lowest for the Active-Duty Army (67.2%) and highest for the Air Force Reserve and Air National Guard (93.5%).

### A.3.2 Eligibility Rate Among Contacted Sample Members

The eligibility rate is the percentage of contacted sample members who were eligible for the study upon receipt of the mail questionnaire. Ineligible individuals were those person no longer in the Military (e.g., retired, deceased). The sampling frame was believed to be purged of all ineligible personnel. Time delays and errors on the frame can result in the eligibility status of a person to either change or to be incorrectly specified, thereby introducing ineligibles into the sample. The eligibility rate can be an important determinant of statistical efficiency because sampling variances are high when eligibility rates are low. If the eligibility status is not known for every case as with our study, some potential

for bias due to missing data is introduced. As shown in Table A2, the eligibility rate across the Total Force sample was 99.9%. Thirty-one sample members were identified as ineligible.

### **A.3.3 Response Rate Among Contacted, Eligible Sample Members**

The response rate is the percentage of eligible sample members who were contacted and returned a completed questionnaire. A questionnaire was considered to be complete if at least 50% of the pertinent questions were answered (excludes logically skipped questions and female health questions for males) and at least two of the design variable questions were answered. As shown in Table A2, the response rate across the Total Force sample was 38.0%. The rate was lowest for the Marine Corps Reserve (27.1%) and highest for the Naval Reserve (47.7%).

### **Reference for Appendix A**

Mason, R.E., Wheless, S.C., George, B.J., Dever, J.A., Riemer, R.A., & Elig, T.W. (1995). Sample allocation for the status of the Armed Forces surveys. In Proceedings of the Section on Survey Research Methods (Vol. II, pp. 769-774). Washington, DC: American Statistical Association.

**Table A2 Survey Response Data and Performance Rates**

Item	Active-Duty Service or Reserve/Guard Component						Air Res/NG	Total
	Active Army	Active Air Force	Army Res/NG	Naval Reserve	MC Reserve			
<b>Response Data</b>								
1. Total sample	12,929	6,779	12,974	4,675	3,841	6,776	47,974	
2. Number of delivered questionnaires <sup>a</sup>	8,693	5,508	11,358	4,228	3,426	6,337	39,550	
3. Number of eligible persons identified <sup>b</sup>	8,684	5,503	11,349	4,224	3,424	6,335	39,519	
4. Number of usable questionnaires	3,363	2,300	3,873	2,015	927	2,547	15,025	
<b>Performance Rates (%)</b>								
5. Contact rate (= Item 2/Item 1)	67.2%	81.3%	87.5%	90.4%	89.2%	93.5%	82.4%	
6. Eligibility rate (= Item 3/Item 2)	99.9%	99.9%	99.9%	99.9%	99.9%	100.0%	99.9%	
7. Response rate (= Item 4/Item 3)	38.7%	41.8%	34.1%	47.7%	27.1%	40.2%	38.0%	

Note: Response data are frequencies; performance rates are percentages.

<sup>a</sup>If the questionnaires were not returned by the post office, the mailings were assumed to be delivered to the appropriate person.

<sup>b</sup>Sample members (n = 31) contacted us and were classified as ineligible. This count includes eligibles nonrespondents and nonrespondents (presumed eligible).

Source: Health Status of Military Women and Men in the Total Force, 1998.

**SAMPLE WEIGHTING AND ESTIMATION PROCEDURES**

**APPENDIX B**

## APPENDIX B

### SAMPLE WEIGHTING AND ESTIMATION PROCEDURES

In this appendix, we describe the procedures used to construct the study weights (both sampling weights and analysis weights) and the study estimates provided in the final report. A discussion of missing data issues and compensation methods also has been included.

We make a distinction between sampling weights and analysis weights. The former are derived from the probability structure used to select the sample. The latter are modifications made to the sampling weights to compensate for such factors as missing data (e.g., nonresponse). The following section discusses the procedures used to calculate the sampling and analysis weights for the 1998 Total Force Health Assessment.

#### B.1 Nonresponse

Questionnaires were considered to be complete if (1) at least 50% of the relevant questions had a valid answer, and (2) either Service (i.e., Reserve/Guard component or Active-Duty Service) or pay grade and one additional stratification variable question had valid answers. Missing values for the sex, Service, pay grade, and race/ethnicity variables were imputed using an unweighted hot-deck procedure. Imputation classes were formed using variables that were statistically related to the item response

patterns of the four variables. Incomplete information for other questions in the questionnaire remained missing.

The questionnaire was adapted from the 1995 Perceptions of Wellness and Readiness (POWR) questionnaire. Information pertaining to the person's sex, Service, pay grade, and race/ethnicity was obtained from questions in the questionnaire. However, a question to identify the person's location (within the continental United States [CONUS] or outside the continental United States [OCONUS]) was not included in the POWR questionnaire and was not added to the Total Force questionnaire. Thus, this information is not included as an analysis variable on the final dataset.

#### B.2 Sampling Weights

Military and civilian surveys have seen a decline in the response rates below their traditional 50% to 60%. It was believed that excluding sample member identification numbers (IDs) from the Total Force questionnaires would maintain anonymity of the respondents and would result in a higher than expected response rate. However, with the exclusion of the sample IDs, we were unable to match the completed questionnaires to the sample file to obtain their location information and their exact sampling weight.

We estimated the sampling weights by matching the completed records to the sampling frame using the questionnaire information. Because location data were not available, we had to collapse the original 162 sampling strata across the location values and create 96 new sampling strata. Using the four remaining stratification variables (sex, Service, pay grade group, and race/ethnicity), we matched the completed questionnaires to the sampling frame.

The sampling weights were calculated as the inverse of the probability of selection into the sample. For the 1998 Total Force study, the sampling weights are the values

$$w_{h,i} = \frac{N_h}{n_h} ,$$

where

- $h = 1, \dots, 96$  (number of collapsed sampling strata),
- $i = 1, \dots, N_h$ ,
- $N_h$  = number of individuals in the  $h^{th}$  stratum on the sampling frame, and
- $n_h$  = number of individuals in the  $h^{th}$  stratum selected for the study.

### B.3 Analysis Weights

We used source information from May 1999 to simultaneously adjust the sampling weights for the nonresponding sample members and the disproportionate allocation of the

sampling design. The analysis weights were created by multiplying the sampling weights by this adjustment factor:

$$w_{h,i}^* = w_{h,i} \times \frac{T_h}{w_{h,i} \times \delta_i} ,$$

where

- $w_{h,i}$  = sampling weight for  $i^{th}$  person in the  $h^{th}$  stratum,
- $T_h$  = source information counts from May 1999 data for the  $h^{th}$  stratum, and
- $\delta_i$  = indicator for returned usable questionnaire (1=yes, 0=no).

Weights were adjusted to the May 1999 counts for both the Total Force data and the POWR data.

### B.4 Estimation Procedures and Analysis Software

The majority of the estimates presented in this report were calculated using the SURvey DAta ANalysis (SUDAAN) software with the fully adjusted analysis weights described above. SUDAAN is a proprietary software package developed at the Research Triangle Institute (RTI) for the specific purpose of analyzing data from complex surveys (Shah, Barnwell, & Bieler, 1997). The primary types of estimates produced for this report are percentages, such as the percent of the total Reserve/Guard personnel who currently smoke, and the corresponding standard errors. We also identified the percentages that differed statistically across sex. Standard errors were calculated using the first-order

Taylor series approximation of the deviation of the estimates from their expected values (Woodruff, 1971). The estimates in this report were produced using the SUDAAN procedures DESCRIPT and CROSSTAB.

Exhibits B1 and B2 provide example SUDAAN programs using the DESCRIPT and CROSSTAB procedures, respectively. The variables in the NEST statement are the first-stage stratum identifier (STRATUM3) and the installation identifier (XFSU). The fully adjusted analysis weight (AWEIGHT) is specified in the WEIGHT statement. The data are subsetted to the appropriate group of records (e.g., Active-Duty military personnel) by specifying the subsetted criteria in the SUBPOPN statement.

Total Force and POWR data were collected under different sampling designs for different populations. Total Force data were collected using a single-stage stratified design from a total of eight Active-Duty Services and Reserve/Guard components (see Exhibit B1). However, POWR data (from two Active-Duty Services) were collected using a two-stage design where installations were selected within strata in the first stage and personnel were selected within the installations in the second stage. Only Active-Duty military personnel were selected from Navy and Marine Corps installations for the POWR study. Data from the two studies were combined to give estimates for the overall Military and are presented in this report. For purposes of calculating the correct variance estimates for the total Military, Total Force respondents were treated as if they were installations selected in the first stage

as in the POWR study. Therefore, the "pseudo second-stage" sampling rates would be equal to 1.0.

## References for Appendix B

Shah, B.V., Barnwell, B.G., & Bieler, G.S. (1997). SUDAAN user's manual: Release 7.5. Research Triangle Park, NC: Research Triangle Institute.

Woodruff, R.S. (1971). Simple method for approximating variances of a complicated estimate. Journal of the American Statistical Association, 66, 411-414.

**Exhibit B1 Example SUDAAN Program Using the DESCRIPT Procedure on the 1998 Health Status of Military Women and Men in the Total Force**

```
PROC DESCRIPT DATA=TAB6B FILETYPE=SAS DESIGN=WR;
  NEST STRATUM3 XFSU;
  WEIGHT AWEIGHT;
  SUBPOPN KEEP_FLG=1;
  SUBGROUP SERVICE GENDER;
  LEVELS 8 2;
  TABLES SERVICE*GENDER;
  VAR CERV_CA BR_CA SKIN_CA OTH_CA;
  CATEVEL 1 1 1 1;
  RFORMAT SERVICE srv_..;
  RFORMAT GENDER gen_..;
  PRINT NSUM WSUM PERCENT SEPERCENT;
  OUTPUT NSUM WSUM PERCENT SEPERCENT
    / FILENAME=OUT_T6B;
```

**Exhibit B2 Example SUDAAN Program Using the CROSSTAB Procedure on the 1998 Health Status of Military Women and Men in the Total Force**

```
PROC CROSSTAB DATA=TAB11A FILETYPE=SAS DESIGN=WR;
  NEST STRATUM3 XFSU;
  WEIGHT AWEIGHT;
  SUBPOPN KEEP_FLG=1;
  SUBGROUP SERVICE GENDER MEDCNT MDCNTFLG;
  LEVELS 8      2      7      2;
  TABLES SERVICE*GENDER*MEDCNT
         SERVICE*GENDER*MDCNTFLG;
  RFORMAT SERVICE  SRV_.;
  RFORMAT GENDER   GEN_.;
  PRINT NSUM WSUM COLPER SECOL ROWPER SEROW;
  OUTPUT NSUM WSUM COLPER SECOL ROWPER SEROW
        / FILENAME=OUT_T11A;
```

**APPENDIX C**  
**ESTIMATED SAMPLING ERRORS**

## APPENDIX C

### ESTIMATED SAMPLING ERRORS

The procedures and methodology used for the 1998 Total Force Health Assessment survey are described in this appendix to help the reader use the estimates of sampling errors that were calculated and printed for various percentages in this report.

"Sampling errors" is the general term we use to describe all the sources of difference between an estimate based on a sample and the true value for the population. The difference arises because, as with most surveys other than a census, we observed only a sample rather than every member of the population. At the time of data collection for the Total Force survey, over 1.6 million personnel were in the Military and eligible for our study worldwide. A sample of 47,990 such military personnel provided close, but less than perfect, estimates of the responses that we would have obtained had we asked all of the eligible personnel to complete the survey.

sample reported that they perceived themselves to be in excellent health with a standard error of 1.0%. It is possible to set up a 95% confidence interval, which means that 95% of the time a computed interval can be expected to include the true (population) percentage. As a general rule, the 95% confidence interval is formed by (a) doubling the standard error (multiplying by 1.96 is the precise value to use), (b) adding this result to the estimate to form the upper bound, and (c) subtracting it from the estimate to form the lower bound. In this case, the lower and upper limits of the 95% interval are 24.0% and 28.0%. A somewhat wider set of limits can be set up to indicate the 99% confidence interval.

Several of the tables in this report show instances where estimates for females and males differ significantly. These tests of significance were guided by the following hypotheses:

$$\begin{aligned} H_0 &: D_O = 0 \\ H_A &: D_O \neq 0 \end{aligned}$$

#### C.1 Confidence Intervals and Significant Differences

For any particular percentage resulting from a sampling survey, it is not possible to know the exact amount of error that has resulted from sampling. It is possible, however, to establish estimated "confidence intervals" (i.e., ranges very likely to include the true population value). For example, Table 3A shows that 26.0% of the total Reserve/Guard military personnel in the 1998

We used the following large-sample  $z$  test for independent samples to test the sex differences:

$$Z = \frac{(P_F - P_M) - D_o}{\sqrt{SE_F^2 + SE_M^2}}$$

where

$$\begin{aligned} P_F &= \text{Total Force estimate for females,} \\ P_M &= \text{Total Force estimate for males,} \\ D_o &= 0, \end{aligned}$$

$$\begin{aligned} SE_F^2 &= \text{SUDAAN variance of Total Force estimate for females (Shah, Barnwell, \& Bieler, 1997), and} \\ SE_M^2 &= \text{SUDAAN variance of Total Force estimate for males.} \end{aligned}$$

The null hypothesis ( $H_0: D_o=0$ ) is rejected if  $|Z|$  is greater than 1.96 for a Type 1 error rate of 0.05. Those estimates that differ significantly for the male-female comparisons at the 0.05 level are identified by a single asterisk attached to female and male estimates.

percentage value and the size of the sample or subgroup on which it is based. For example, the 95% confidence interval for a proportion ( $p$ ) can be approximated by

$$p \pm 1.96 \sqrt{\frac{p(1-p)}{N}}$$

In this section, we discuss all of the factors, beginning with the basic ones and proceeding to those that are more complex.

### C.2.1 Number of Cases ( $N$ )

When other things are equal, the larger a sample or subgroup, the more precise an estimate will be based on that sample or subgroup. Given a more precise estimate, the confidence levels will be more narrow. One of the factors is  $1/\sqrt{N}$ , the reciprocal of the square root of the size of the sample or the subgroup. Thus, a sample of 400 will, all things being equal, have a confidence interval just half as wide as that for a sample of 100, because  $1/\sqrt{400}$  is just about half of  $1/\sqrt{100}$ .

### C.2.2 Percentage Size

Other things again being equal, percentage values around 50% have the largest confidence intervals because  $\sqrt{p(1-p)}$  (where  $p$  is a proportion between 0.0 and 100.0) also is a factor affecting the size of the confidence interval. This factor will be only three-fifths as large for  $p=10\%$  or  $p=90\%$  in comparison with  $p=50\%$  because  $\sqrt{.1 \times .9}$  is  $3/5 \times \sqrt{.5 \times .5}$ .

## C.2 Factors Influencing the Size of Confidence Intervals in This Report

From a statistical standpoint, the most straightforward types of samples are simple random samples. In such samples, the confidence limits for a percentage are simple functions of the

### C.3 Design Effects in Complex Samples

Under simple random sampling (SRS), a confidence interval can be determined from the two factors we just described plus the appropriate constant for the confidence level desired (e.g., 1.96 for 95%). Where stratification and differential weighting of responses are involved, as in this survey, all of these also influence sampling error. Stratification tends to increase precision, but the effects of weighting reduce it. The result is usually lower precision than would be obtained by the use of a simple random sample of the same size. Accordingly, using the simple formula generally underestimates the sampling error involved.

There are methods to correct for this underestimation, however. Kish (1965, p. 258) defined a correction term known as the design effect ( $DEFF$ ), where

$$DEFF = \frac{\text{Actual sampling variance}}{\text{SRS variance}},$$

the size of a simple random sample that would have resulted with the same degree of precision. For example, with a  $DEFF$  of 4.0 and an actual sample size of 4,000, the "effective  $N$ " is 1,000. The value of the "effective  $N$ " can be used in the simple formula  $\sqrt{p(1-p)/N}$  to compute standard errors of estimates and confidence interval limits for proportions. It is therefore possible to use formulas and tables appropriate for simple random samples, regardless of the actual type of sample, by converting the sample size to the "effective  $N$ ."

Actually, every statistic derived from a complex sample has its own design effect, different from all of the others. In practice, however,  $DEFF$  values are generally computed only for a cross-section of the statistics, and averages are computed and applied to those of the same types. Often, a single average  $DEFF$  is used for all percentages.

### C.4 Suppression Rule for Estimates

If, therefore, the actual sampling variance for a proportion  $p$  is four times the value computed for a simple random sample of the same size  $N$ , the  $DEFF$  is 4.0. Because a confidence interval is based on the square root of the variance, any confidence interval would have to be twice as wide as the corresponding interval from a simple random sample of the same size.

A simple way of using a  $DEFF$  value is to divide the actual sample or domain size by the value and obtain the "effective  $N$ ,"

In this report, we suppressed unreliable estimates. That is, we suppressed proportions and means that could not be reported with confidence because they were based on small sample sizes or had large sampling errors. The sample size restriction we used was to suppress an estimate when the number of observations on which it was based was fewer than 30 cases.

For estimates expressed as proportions (e.g., the proportion of heavy drinkers), we used a suppression rule based on the  $RSE$  of

the natural log of the estimated proportion ( $p$ ). Specifically, we suppressed estimates in tables when

$$RSE[-\ln(p)] > 0.225 \text{ for } p \leq 0.5, \text{ and}$$

$$RSE[-\ln(1-p)] > 0.225 \text{ for } p > 0.5.$$

Note that  $RSE[-\ln(p)] = RSE(p)/(-\ln(p)) = SE(p)/(-p \ln(p))$ , where  $SE(p)$  denotes the standard error of  $p$ , the estimated proportion.

We chose to use this rule based on the natural log of the  $RSE$  rather than on the  $RSE$  itself because the latter has been observed to have some undesirable properties for proportions. Specifically, a rule based on the  $RSE$  of the estimate imposes a very stringent suppression requirement on small proportions but a very lax requirement on large proportions. That is, small proportions must have relatively large effective sample sizes to avoid being suppressed, whereas large proportions require much smaller sample sizes.

The rule based on the natural log of the  $RSE$  of the estimate is more liberal in allowing small proportions to avoid being suppressed but more stringent with regard to suppression of large proportions. For example, under the rule based on the  $RSE[-\ln(p)]$ , percentages of about 1% would be suppressed unless they were based on an effective sample size of about 100 or more respondents, and percentages of 20% would be suppressed unless they were based on an effective sample size of about 30 respondents. Using a rule for proportions based on  $RSE(p) > 0.50$

would require an effective sample size of 400 respondents for percentages of about 1% and an effective sample size of only 16 respondents for percentage estimates of about 20%.

Very small estimates (i.e.,  $< 0.05\%$ ) that were not suppressed under these rules, but that rounded to zero, also were suppressed and are shown as two asterisks (\*\*) in the tables.

## References for Appendix C

Kish, L. (1965). *Survey sampling*. New York: John Wiley & Sons.

Shah, B.V., Barnwell, B.G., & Bieler, G.S. (1997). SUDAAN user's manual: Release 7.5. Research Triangle Park, NC: Research Triangle Institute.

**STANDARD ERROR TABLES**

**APPENDIX D**

**Table 2ASE Standard Errors for Table 2A: Sociodemographic Characteristics Among Reserve Personnel**

Characteristic	Total Reserve Personnel											
	Army Reserve			Naval Reserve			Marine Corps Reserve			Air Force Reserve		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>												
White – not Hispanic	2.2	2.3	1.9	1.1	0.7	0.6	3.6	0.6	0.6	3.7	2.5	2.1
Black – not Hispanic	2.2	2.1	1.7	1.0	0.7	0.6	3.1	0.4	0.4	3.7	2.4	2.1
Hispanic	0.4	0.6	0.4	0.6	0.4	0.3	2.2	0.7	0.7	0.5	0.5	0.4
American Indian/Alaskan Native	0.2	0.1	0.1	0.3	0.1	0.1	**	0.1	0.1	0.2	0.2	0.1
Asian/Filipino/Pacific Islander	0.4	0.4	0.3	0.5	0.4	0.3	1.6	0.6	0.6	0.7	0.4	0.4
Other	0.1	0.2	0.1	0.2	0.1	0.1	1.4	0.2	0.2	0.4	0.1	0.1
<b>Education</b>												
High school or less	2.7	2.4	2.0	1.8	1.8	1.5	3.1	1.8	1.8	3.5	3.1	2.6
Some college	3.2	2.7	2.2	2.7	2.1	1.8	3.6	2.1	2.0	4.7	3.9	3.2
College degree or beyond	2.6	2.3	1.8	2.5	1.8	1.5	2.9	1.4	1.4	4.3	3.2	2.7
<b>Age</b>												
20 or younger	3.0	2.4	1.9	0.6	0.2	0.2	3.0	2.0	1.9	1.4	NA	0.3
21 to 25 years old	2.5	1.7	1.4	1.2	1.3	1.0	3.3	2.0	1.9	3.1	1.4	1.3
26 to 34 years old	2.6	2.5	2.0	2.6	2.0	1.7	3.1	1.7	1.6	4.4	3.6	3.0
35 or older	2.8	2.8	2.2	2.6	2.0	1.7	2.0	0.8	0.8	4.7	3.7	3.1
<b>Marital Status</b>												
Not married	2.7	2.8	2.2	2.9	2.2	1.8	3.3	1.7	1.6	4.6	3.3	2.8
Married	2.7	2.8	2.2	2.9	2.2	1.8	3.3	1.7	1.6	4.6	3.3	2.8
<b>Pay Grade</b>												
E1-E3	3.3	2.6	2.1	1.5	1.6	1.3	3.3	2.0	1.9	1.4	0.1	0.3
E4-E6	3.2	2.7	2.2	1.6	1.7	1.4	3.3	1.9	1.8	4.1	3.1	2.6
E7-E9	1.6	1.6	1.2	0.7	0.8	0.7	1.1	0.6	0.6	3.2	2.5	2.1
W1-W5	0.3	0.5	0.4	0.1	0.1	0.1	0.7	0.2	0.2	NA	NA	0.2
O1-O3	0.8	1.2	0.9	0.6	0.3	0.3	0.6	0.2	0.2	1.4	0.8	0.7
O4-O10	0.5	1.2	0.9	0.6	0.3	0.3	1.1	0.1	0.1	1.3	1.1	0.9
<b>Total Reserve</b>	1.2	1.2	NA	0.4	0.4	NA	0.1	0.1	NA	1.7	1.7	NA
										0.7	0.7	NA

Note: Table entries are percentages.

\*\*Low precision.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 2BSE Standard Errors for Table 2B: Sociodemographic Characteristics Among Guard Personnel**

Characteristic	Army National Guard			Air National Guard			Total Guard Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Race/Ethnicity</b>									
White – not Hispanic	3.5	1.8	1.7	1.9	1.1	0.9	2.4	1.4	1.3
Black – not Hispanic	3.4	1.7	1.6	1.9	1.1	0.9	2.4	1.3	1.2
Hispanic	0.5	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.3
American Indian/Alaskan Native	0.3	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.1
Asian/Filipino/Pacific Islander	0.3	0.2	0.2	0.5	0.3	0.3	0.3	0.2	0.2
Other	0.2	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.1
<b>Education</b>									
High school or less	4.0	2.5	2.3	2.7	1.6	1.4	2.9	2.0	1.8
Some college	4.7	2.5	2.3	3.7	2.3	2.0	3.4	2.0	1.8
College degree or beyond	3.7	1.5	1.4	3.5	1.9	1.7	2.8	1.3	1.2
<b>Age</b>									
20 or younger	4.2	2.2	2.0	0.8	0.3	0.3	2.9	1.7	1.5
21 to 25 years old	3.9	1.6	1.5	2.5	1.7	1.5	2.8	1.3	1.2
26 to 34 years old	4.1	2.3	2.1	3.7	2.1	1.8	3.0	1.9	1.7
35 or older	4.4	2.5	2.3	3.3	2.2	1.9	3.2	2.0	1.8
<b>Marital Status</b>									
Not married	4.4	2.6	2.3	3.7	2.3	2.0	3.2	2.1	1.9
Married	4.4	2.6	2.3	3.7	2.3	2.0	3.2	2.1	1.9
<b>Pay Grade</b>									
E1-E3	4.9	2.3	2.2	1.3	1.5	1.3	3.5	1.9	1.7
E4-E6	4.8	2.4	2.2	2.8	2.1	1.8	3.5	1.9	1.8
E7-E9	2.1	1.2	1.1	2.2	1.6	1.3	1.6	1.0	0.9
W1-W5	0.3	0.5	0.5	NA	NA	NA	0.2	0.4	0.4
O1-O3	0.7	0.7	0.6	0.8	0.4	0.4	0.6	0.5	0.5
O4-O10	1.0	0.4	0.4	0.5	0.5	0.4	0.7	0.4	0.3
<b>Total Guard</b>	0.8	0.8	NA	0.7	0.7	NA	0.7	0.7	NA

Note: Table entries are percentages.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 2CSE Standard Errors for Table 1C: Sociodemographic Characteristics Among Active-Duty Personnel**

Characteristic	Total Active-Duty Personnel										
	Army			Navy			Marine Corps			Air Force	
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males
<b>Race/Ethnicity</b>											
White – not Hispanic	0.9	1.1	1.0	1.5	1.9	1.8	1.5	2.7	2.6	1.1	0.7
Black – not Hispanic	1.1	1.1	1.0	1.0	1.3	1.2	1.6	0.8	0.7	0.9	0.7
Hispanic	0.3	0.2	0.2	0.8	1.1	1.0	1.4	2.0	1.9	0.3	0.2
American Indian/Alaskan Native	0.2	0.1	0.1	0.1	0.3	0.3	0.7	0.4	0.4	0.1	0.1
Asian/Filipino/Pacific Islander	0.3	0.2	0.2	0.5	1.0	0.9	0.6	0.7	0.6	0.3	0.3
Other	0.1	0.1	0.1	0.2	0.3	0.3	0.3	1.0	1.0	0.1	0.1
<b>Education</b>											
High school or less	2.5	2.2	1.9	2.1	2.5	2.3	3.3	4.0	3.8	3.2	2.3
Some college	2.7	2.1	1.8	1.4	1.9	1.7	3.5	3.0	2.8	3.2	2.3
College degree or beyond	1.6	1.1	1.0	2.4	2.2	2.2	2.0	1.9	1.8	1.9	1.4
<b>Age</b>											
20 or younger	2.4	2.0	1.8	1.3	2.1	1.8	2.2	3.5	3.4	2.9	2.1
21 to 25 years old	2.5	2.0	1.8	1.9	2.1	1.8	2.0	3.2	3.1	3.3	2.1
26 to 34 years old	2.6	2.0	1.7	1.7	1.9	1.7	1.9	3.3	3.2	3.1	2.2
35 or older	1.5	1.3	1.1	1.7	1.7	1.6	1.1	1.8	1.8	1.9	1.6
<b>Marital Status</b>											
Not married	2.7	2.2	1.9	1.3	2.0	1.8	2.0	3.6	3.4	3.4	2.5
Married	2.7	2.2	1.9	1.3	2.0	1.8	2.0	3.6	3.4	3.4	2.5
<b>Pay Grade</b>											
E1-E3	2.9	2.5	2.2	3.2	3.0	2.9	2.7	6.1	5.8	3.7	2.6
E4-E6	2.7	2.1	1.9	2.4	2.5	2.4	2.0	5.0	4.8	3.3	2.3
E7-E9	0.8	0.8	0.7	0.5	0.7	0.7	0.7	0.8	0.8	0.7	0.8
W1-W5	0.3	0.4	0.3	0.1	0.1	0.1	0.4	0.2	0.2	NA	NA
O1-O3	0.4	0.4	0.4	1.7	1.6	1.6	1.2	0.8	0.8	0.3	0.2
O4-O10	0.2	0.1	0.1	1.1	1.1	1.0	0.5	0.8	0.7	0.4	0.2
<b>Total Active Duty</b>	0.4	0.4	NA	0.6	0.6	NA	0.5	NA	0.5	0.5	NA

Note: Table entries are percentages.

NA: Not applicable.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 3ASE Standard Errors for Table 3A: Perceived Health Status Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>General Health</b>								
<b>Females</b>								
Excellent	2.4	3.8	2.3	3.4	3.8	3.3	1.5	
Very good	3.2	4.7	2.9	3.7	4.8	3.7	1.9	
Good	3.2	3.9	2.6	3.1	4.5	3.1	1.7	
Fair	1.7	0.2	1.3	1.1	1.4	1.5	0.7	
Poor	1.2	0.8	0.1	0.4	0.1	0.6	0.5	
<b>Males</b>								
Excellent	2.3	1.9	2.1	3.1	2.0	1.2		
Very good	2.7	2.5	2.1	3.9	2.5	1.3		
Good	2.5	2.3	1.9	3.2	2.1	1.2		
Fair	1.1	0.9	0.3	0.5	1.2	0.6	0.5	
Poor	0.3	0.4	0.1	0.3	1.0	0.3	0.2	
<b>Total</b>								
Excellent	1.9	2.1	1.6	2.1	2.6	1.8	1.0	
Very good	2.2	2.3	1.8	2.1	3.2	2.1	1.2	
Good	2.0	2.1	1.6	1.5	2.7	1.8	1.1	
Fair	0.9	0.8	0.4	0.5	1.0	0.5	0.4	
Poor	0.4	0.3	0.1	0.3	0.8	0.3	0.2	
<b>Vitality<sup>a</sup></b>								
<b>Females</b>								
High	2.9	4.6	2.8	3.4	4.4	3.6	1.8	
Medium	3.1	4.6	2.4	3.5	4.2	3.5	1.8	
Low	3.3	4.5	2.9	3.7	4.9	3.6	1.9	
<b>Males</b>								
High	2.7	2.4	2.1	2.1	3.8	2.4	1.3	
Medium	2.8	2.5	2.1	2.2	3.7	2.3	1.3	
Low	2.3	2.4	1.9	2.0	3.5	2.3	1.3	
<b>Total</b>								
High	2.2	2.2	1.8	2.0	3.2	2.1	1.1	
Medium	2.2	2.3	1.8	2.1	3.1	2.0	1.2	
Low	1.9	2.2	1.6	1.9	3.0	2.0	1.1	

Note: Table entries are percentages.

<sup>a</sup>Vitality is a summary measure of energy and fatigue.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 3BSE Standard Errors for Table 3B: Perceived Health Status Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>General Health</b>					
<b>Females</b>					
Excellent	1.9	1.5	2.3	2.7	1.2
Very good	2.9	0.9	2.5	3.4	1.6
Good	2.6	1.4	2.6	3.3	1.5
Fair	1.2	0.5	1.1	1.9	0.8
Poor	0.6	0.2	0.8	0.2	0.2
<b>Males</b>					
Excellent	1.9	1.6	2.4	2.0	1.0
Very good	2.2	1.5	2.0	2.5	1.1
Good	1.9	1.3	2.1	2.2	1.0
Fair	1.3	0.3	1.4	0.7	0.5
Poor	0.2	0.1	0.7	**	0.1
<b>Total</b>					
Excellent	1.7	1.5	2.3	1.7	0.9
Very good	1.9	1.3	1.9	2.1	1.0
Good	1.7	1.2	2.0	1.9	0.9
Fair	1.1	0.3	1.3	0.7	0.5
Poor	0.2	0.1	0.7	**	0.1
<b>Vitality<sup>a</sup></b>					
<b>Females</b>					
High	2.2	1.1	2.0	2.8	1.3
Medium	2.5	0.8	1.5	3.4	1.5
Low	2.8	1.3	2.9	3.4	1.6
<b>Males</b>					
High	2.0	0.9	2.6	2.2	1.0
Medium	2.1	1.1	2.8	2.4	1.0
Low	2.2	1.2	4.5	2.4	1.2
<b>Total</b>					
High	1.7	0.8	2.5	1.9	0.9
Medium	1.8	1.0	2.6	2.0	0.9
Low	2.0	1.1	4.2	2.1	1.1

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Vitality is a summary measure of energy and fatigue.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 4ASE Standard Errors for Table 4A: Perceived Role Limitations Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	National Guard	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Role Limitations Due to Physical Health Problems</b>									
<b>Females</b>									
High	3.2								
Low	3.2								
<b>Males</b>									
High	1.8								
Low	1.8								
<b>Total</b>									
High	1.6								
Low	1.6								
<b>Role Limitations Due to Emotional Health Problems</b>									
<b>Females</b>									
High	2.7								
Low	2.7								
<b>Males</b>									
High	1.8								
Low	1.8								
<b>Total</b>									
High	1.5								
Low	1.5								

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 4BSE Standard Errors for Table 4B: Perceived Role Limitations Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Role Limitations Due to Physical Health Problems</b>					
<b>Females</b>					
High	2.7	0.9	2.0	2.7	1.4
Low	2.7	0.9	2.0	2.7	1.4
<b>Males</b>					
High	2.0	0.9	2.0	1.6	0.9
Low	2.0	0.9	2.0	1.6	0.9
<b>Total</b>					
High	1.7	0.8	1.9	1.4	0.8
Low	1.7	0.8	1.9	1.4	0.8
<b>Role Limitations Due to Emotional Health Problems</b>					
<b>Females</b>					
High	2.7	1.0	1.8	2.8	1.4
Low	2.7	1.0	1.8	2.8	1.4
<b>Males</b>					
High	1.9	0.8	2.2	1.8	0.9
Low	1.9	0.8	2.2	1.8	0.9
<b>Total</b>					
High	1.7	0.7	2.1	1.6	0.8
Low	1.7	0.7	2.1	1.6	0.8

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 5ASE Standard Errors for Table 5A: Lifetime Prevalence of Respiratory or Skeletal Conditions and Allergic or Infectious Diseases Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Asthma</b>								
Females	2.2	3.3	1.4	1.9	2.0	1.8	1.3	1.3
Males	1.1	1.1	1.1	1.1	1.8	1.3	0.6	0.6
Total	1.0	1.1	1.0	1.0	1.5	1.1	0.6	0.6
<b>Chronic Bronchitis</b>								
Females	2.5	3.0	1.7	2.1	3.3	2.5	1.3	1.3
Males	1.2	1.0	1.1	0.9	0.8	1.1	0.5	0.5
Total	1.1	0.9	1.0	0.9	1.0	1.0	0.5	0.5
<b>Arthritis</b>								
Females	2.2	2.5	1.7	1.4	2.6	2.3	1.1	1.1
Males	1.4	1.4	1.0	0.8	2.3	1.1	0.7	0.7
Total	1.2	1.3	0.8	0.7	1.9	1.0	0.6	0.6
<b>Chronic Rhinitis or Hay Fever</b>								
Females	2.5	2.7	1.9	2.1	4.1	2.7	1.3	1.3
Males	1.5	1.3	1.4	1.0	3.1	1.5	0.8	0.8
Total	1.3	1.2	1.2	1.0	2.6	1.3	0.7	0.7
<b>Other Allergies</b>								
Females	3.0	4.2	2.7	3.0	4.8	3.6	1.8	1.8
Males	2.2	2.0	1.8	1.6	3.3	2.1	1.1	1.1
Total	1.9	1.9	1.5	1.6	2.8	1.9	1.0	1.0
<b>Positive Test for Tuberculosis</b>								
Females	2.0	0.8	1.5	1.7	3.1	1.5	0.9	0.9
Males	1.3	0.6	0.9	0.9	1.9	0.8	0.4	0.4
Total	1.1	0.6	0.8	0.9	1.6	0.7	0.4	0.4
<b>Hepatitis</b>								
Females	0.8	1.2	1.0	0.7	0.9	1.3	0.5	0.5
Males	0.9	0.7	0.5	0.6	0.2	0.9	0.4	0.4
Total	0.7	0.6	0.4	0.5	0.3	0.8	0.3	0.3

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 5BSE Standard Errors for Table 5B: Lifetime Prevalence of Respiratory or Skeletal Conditions and Allergic or Infectious Diseases Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Asthma</b>					
Females	1.7	0.6	0.8	1.2	0.7
Males	1.1	0.5	1.4	0.9	0.5
Total	1.0	0.4	1.3	0.8	0.4
<b>Chronic Bronchitis</b>					
Females	1.9	0.5	1.2	0.7	0.7
Males	1.3	0.6	1.5	0.9	0.5
Total	1.1	0.5	1.4	0.7	0.5
<b>Arthritis</b>					
Females	1.6	0.4	0.7	1.0	0.7
Males	0.9	0.4	0.7	1.2	0.5
Total	0.8	0.4	0.6	1.0	0.4
<b>Chronic Rhinitis or Hay Fever</b>					
Females	1.6	0.7	0.8	2.3	1.0
Males	1.1	0.9	1.1	1.2	0.6
Total	1.0	0.9	1.0	1.1	0.5
<b>Other Allergies</b>					
Females	2.3	0.9	1.3	3.2	1.4
Males	1.6	0.8	2.2	1.9	0.8
Total	1.4	0.7	2.0	1.6	0.7
<b>Positive Test for Tuberculosis</b>					
Females	1.5	0.5	0.7	1.7	0.8
Males	0.9	0.7	0.8	0.9	0.5
Total	0.8	0.6	0.7	0.8	0.4
<b>Hepatitis</b>					
Females	1.0	0.2	0.5	0.7	0.4
Males	0.4	0.3	0.6	0.5	0.2
Total	0.4	0.3	0.6	0.4	0.2

Note: Table entries are percentages.

Source: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 6ASE Standard Errors for Table 6A: Lifetime Prevalence of Cancer Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Cervical Cancer</b>								
Females	0.7	2.1	1.3	1.1	0.4	0.2	0.7	
<b>Breast Cancer</b>								
Females	0.8	1.0	0.1	**	0.2	0.4	0.4	
<b>Skin Cancer</b>								
Females	0.6	1.0	0.3	0.7	0.9	0.4	0.4	
Males	0.3	0.6	0.6	0.2	1.4	0.7	0.3	
Total	0.3	0.6	0.5	0.2	1.1	0.6	0.3	
<b>Other Cancer</b>								
Females	0.8	**	0.3	**	0.4	0.1	0.3	
Males	0.2	0.4	0.1	0.3	0.5	0.4	0.2	
Total	0.3	0.3	0.1	0.3	0.4	0.3	0.2	

Note: Table entries are percentages.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 6BSE Standard Errors for Table 6B: Lifetime Prevalence of Cancer Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Cervical Cancer</b>					
Females	1.1	0.3	1.0	0.6	0.5
<b>Breast Cancer</b>					
Females	0.4	0.1	0.1	0.2	0.1
<b>Skin Cancer</b>					
Females	0.2	0.1	0.3	0.2	0.1
Males	0.6	0.1	0.1	0.4	0.2
Total	0.5	0.1	0.1	0.3	0.2
<b>Other Cancer</b>					
Females	0.3	0.1	0.1	0.1	0.1
Males	0.6	0.1	0.6	0.8	0.3
Total	0.5	0.1	0.5	0.6	0.2

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 7ASE Standard Errors for Table 7A: Lifetime Prevalence of Cardiovascular and Endocrine Conditions Among Reserve/Guard Personnel**

System/Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Cardiovascular</b>								
<b>Heart Disease or Angina</b>								
Females	0.6	1.1	1.3	0.6	0.2	0.9	0.4	0.4
Males	0.3	0.8	0.3	0.2	0.5	0.3	0.4	0.4
Total	0.3	0.7	0.3	0.2	0.4	0.3	0.3	0.3
<b>High Blood Pressure</b>								
Females	2.1	2.7	1.7	1.6	2.8	1.5	1.1	1.1
Males	1.8	1.6	1.4	0.9	2.5	1.4	0.9	0.9
Total	1.4	1.5	1.2	0.8	2.1	1.2	0.8	0.8
<b>High Cholesterol</b>								
Females	2.0	3.5	2.4	1.9	3.3	2.7	1.3	1.3
Males	1.8	1.8	1.7	0.8	3.3	1.8	1.0	1.0
Total	1.4	1.6	1.4	0.8	2.7	1.6	0.8	0.8
<b>Endocrine</b>								
<b>Thyroid Disease</b>								
Females	1.4	0.2	0.9	1.1	1.6	1.3	0.6	0.6
Males	0.5	0.3	0.3	0.1	0.5	0.4	0.2	0.2
Total	0.5	0.2	0.3	0.1	0.5	0.4	0.2	0.2
<b>Diabetes</b>								
Females	0.6	0.2	0.5	1.5	0.3	1.0	0.3	0.3
Males	0.6	0.4	0.4	**	0.5	0.1	0.2	0.2
Total	0.5	0.4	0.4	0.1	0.4	0.2	0.2	0.2

Note: Table entries are percentages.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 7BSE Standard Errors for Table 7B: Lifetime Prevalence of Cardiovascular and Endocrine Conditions Among Active-Duty Personnel**

System/Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Cardiovascular</b>					
<b>Heart Disease or Angina</b>					
Females	0.6	0.1		**	0.3
Males	0.4	0.1		**	0.2
Total	0.4	0.1		**	0.2
<b>High Blood Pressure</b>					
Females	1.7	0.5	0.5	1.4	0.8
Males	1.3	0.9	0.8	1.4	0.7
Total	1.1	0.8	0.7	1.2	0.6
<b>High Cholesterol</b>					
Females	1.7	0.5	1.0	2.1	1.0
Males	1.2	0.8	0.8	1.5	0.7
Total	1.1	0.7	0.7	1.3	0.6
<b>Endocrine</b>					
<b>Thyroid Disease</b>					
Females	0.7	0.3	0.3	0.8	0.4
Males	0.2	0.1	0.1	0.6	0.2
Total	0.2	0.1	0.1	0.6	0.2
<b>Diabetes</b>					
Females	0.6	0.2	0.5	1.1	0.4
Males	0.2	0.1	**	0.1	0.1
Total	0.2	0.1	**	0.2	0.1

Note: Table entries are percentages.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 8ASE Standard Errors for Table 8A: Lifetime Prevalence of Gastrointestinal and Gallbladder Disorders Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Hernia or Rupture</b>								
Females	1.0	1.9	1.0	1.2	0.3	1.2	0.7	
Males	1.8	1.8	1.3	1.3	2.4	1.7	0.9	
Total	1.4	1.6	1.1	1.2	1.9	1.4	0.8	
<b>Hemorrhoids</b>								
Females	2.1	3.8	2.4	2.3	4.3	3.2	1.5	
Males	1.9	1.6	1.4	0.9	2.8	1.7	0.9	
Total	1.6	1.5	1.2	0.9	2.4	1.6	0.8	
<b>Ulcer</b>								
Females	1.7	2.6	1.6	1.3	2.6	2.4	1.1	
Males	1.2	1.3	1.0	0.8	2.5	1.1	0.7	
Total	1.0	1.2	0.8	0.8	2.0	1.0	0.6	
<b>Bowel or Intestinal Trouble</b>								
Females	1.2	1.9	1.5	1.5	3.6	2.7	0.9	
Males	0.8	1.2	0.5	0.7	2.0	1.1	0.6	
Total	0.7	1.1	0.5	0.7	1.7	1.0	0.5	
<b>Gallstones</b>								
Females	1.2	1.1	1.3	0.6	2.0	1.7	0.6	
Males	0.3	0.6	0.1	0.1	1.0	0.5	0.3	
Total	0.4	0.6	0.3	0.1	0.9	0.5	0.3	

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 8BSE Standard Errors for Table 8B: Lifetime Prevalence of Gastrointestinal and Gallbladder Disorders Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Hernia or Rupture</b>					
Females	1.0	0.3	0.6	2.0	0.8
Males	1.0	0.7	1.1	1.7	0.6
Total	0.9	0.6	1.0	1.4	0.5
<b>Hemorrhoids</b>					
Females	1.9	0.6	1.0	2.4	1.1
Males	1.2	0.5	1.1	1.5	0.6
Total	1.0	0.5	1.0	1.3	0.5
<b>Ulcer</b>					
Females	1.4	0.4	0.5	0.9	0.6
Males	0.7	0.5	0.7	1.2	0.4
Total	0.6	0.4	0.7	1.0	0.4
<b>Bowel or Intestinal Trouble</b>					
Females	1.5	0.4	1.5	2.2	0.9
Males	0.6	0.5	0.4	0.9	0.3
Total	0.5	0.4	0.4	0.8	0.3
<b>Gallstones</b>					
Females	0.9	0.3	0.3	1.5	0.6
Males	0.2	0.1	0.1	0.1	0.1
Total	0.2	0.1	0.1	0.3	0.1

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 9ASE Standard Errors for Table 9A: Lifetime Prevalence of Urinary Tract Conditions Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	Army National Guard	National Reserve	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Urinary Tract Infection</b>									
Females	3.3	4.6	2.8	3.6	4.9	3.7	3.7	3.7	1.9
Males	1.4	1.4	1.3	0.7	2.5	1.4	1.4	1.4	0.8
Total	1.4	1.4	1.2	0.7	2.3	1.4	1.4	1.4	0.7
<b>Repeated Kidney Infections</b>									
Females	1.7	2.2	1.4	1.1	2.1	1.3	1.3	1.3	0.9
Males	0.2	0.5	0.7	0.2	0.1	0.2	0.2	0.2	0.2
Total	0.5	0.5	0.6	0.2	0.5	0.3	0.3	0.3	0.2
<b>Kidney Stones</b>									
Females	0.8	0.2	1.2	0.6	0.4	1.5	1.5	1.5	0.4
Males	1.2	0.9	0.6	0.5	2.3	1.0	1.0	1.0	0.5
Total	0.9	0.8	0.5	0.5	1.8	0.8	0.8	0.8	0.5

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 9BSE Standard Errors for Table 9B: Lifetime Prevalence of Urinary Tract Conditions Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Urinary Tract Infection</b>					
Females	2.9	1.1	3.6	3.4	1.6
Males	1.1	0.5	1.1	1.1	0.5
Total	1.0	0.6	0.9	1.1	0.5
<b>Repeated Kidney Infections</b>					
Females	0.9	0.3	1.0	1.1	0.5
Males	0.4	0.1	0.4	0.2	0.2
Total	0.4	0.1	0.1	0.3	0.2
<b>Kidney Stones</b>					
Females	1.2	0.2	0.2	1.4	0.6
Males	0.7	0.4	0.8	0.5	0.3
Total	0.6	0.4	0.7	0.5	0.3

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 10ASE Standard Errors for Table 10A: Lifetime Prevalence of Reproductive System Disorders Among Reserve/Guard Personnel**

Medical Condition/Sex	Army Reserve	National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Herpes or Genital Warts</b>							
Females	1.8	3.0	1.9	2.2	3.8	2.3	1.2
Males	1.1	0.9	1.1	0.7	1.9	1.0	0.5
Total	1.0	0.9	0.9	0.7	1.7	0.9	0.5
<b>Other Sexually Transmitted Diseases</b>							
Females	2.7	3.2	1.5	2.3	3.6	1.8	1.4
Males	1.5	1.0	1.2	0.8	1.9	1.3	0.6
Total	1.3	1.0	1.0	0.8	1.7	1.2	0.6
<b>Pelvic Inflammatory Disease</b>							
Females	2.1	1.9	1.7	1.1	2.2	1.8	1.0
<b>Sterility/Infertility</b>							
Females	0.9	1.1	1.5	1.3	1.0	1.3	0.5
Males	0.6	0.6	0.5	0.2	1.1	0.5	0.3
Total	0.5	0.5	0.5	0.2	0.9	0.5	0.3

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 10BSE Standard Errors for Table 10B: Lifetime Prevalence of Reproductive System Disorders Among Active-Duty Personnel**

Medical Condition/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Herpes or Genital Warts</b>					
Females	2.0	0.6	1.3	2.6	1.2
Males	0.6	0.5	0.8	1.0	0.4
Total	0.6	0.5	0.8	0.9	0.4
<b>Other Sexually Transmitted Diseases</b>					
Females	2.4	1.1	1.5	1.9	1.1
Males	1.4	0.7	1.0	1.1	0.6
Total	1.2	0.7	0.9	1.0	0.6
<b>Pelvic Inflammatory Disease</b>					
Females	1.3	0.6	1.1	1.8	0.8
<b>Sterility/Infertility</b>					
Females	0.6	0.2	0.5	0.7	0.3
Males	0.3	0.2	0.5	0.5	0.2
Total	0.3	0.2	0.4	0.4	0.2

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 11ASE Standard Errors for Table 11A: Number of Self-Reported Lifetime Medical Conditions Among Reserve/Guard Personnel**

Service/Sex	Number of Self-Reported Lifetime Medical Conditions						6 or More (1 or More)
	0	1	2	3	4	5	
<b>Army Reserve</b>							
Females	2.8	2.6	2.3	2.3	2.2	2.0	1.7
Males	2.7	2.4	2.0	1.8	0.9	1.1	0.5
Total	2.2	1.9	1.6	1.5	0.9	1.0	0.6
<b>Army National Guard</b>							
Females	3.9	4.3	3.8	2.5	2.6	2.6	2.1
Males	2.5	2.2	1.9	1.5	1.1	0.7	0.8
Total	2.3	2.0	1.8	1.3	1.0	0.7	0.7
<b>Naval Reserve</b>							
Females	2.2	2.2	2.4	2.0	1.9	1.4	1.6
Males	2.0	1.9	1.5	1.4	1.0	0.8	0.7
Total	1.7	1.6	1.3	1.2	0.9	0.7	0.7
<b>Marine Corps Reserve</b>							
Females	3.5	2.9	2.9	2.7	1.8	1.2	1.2
Males	2.2	1.9	1.5	0.8	0.6	0.4	0.3
Total	2.1	1.8	1.5	0.7	0.6	0.4	0.3
<b>Air Force Reserve</b>							
Females	3.6	3.6	4.0	2.4	3.5	2.0	3.6
Males	3.4	3.6	3.0	2.5	1.8	1.3	1.8
Total	2.8	3.0	2.5	2.0	1.6	1.1	1.6
<b>Air National Guard</b>							
Females	3.1	2.5	3.2	2.7	2.0	1.9	2.2
Males	2.1	2.3	1.9	1.6	1.0	0.6	0.9
Total	1.9	2.0	1.7	1.4	0.9	0.6	0.8
<b>Total Reserve/Guard Personnel</b>							
Females	1.6	1.6	1.5	1.2	1.2	1.1	1.0
Males	1.3	1.2	1.0	0.8	0.6	0.4	0.4
Total	1.2	1.0	0.9	0.7	0.5	0.4	0.4

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 11BSE Standard Errors for Table 11B: Number of Self-Reported Lifetime Medical Conditions Among Active-Duty Personnel**

Service/Sex	Number of Self-Reported Lifetime Medical Conditions						6 or More (1 or More)
	0	1	2	3	4	5	
<b>Army</b>							
Females	2.0	2.6	2.2	2.3	1.6	0.8	1.4
Males	2.2	2.0	1.4	1.2	0.8	0.5	0.5
Total	1.9	1.8	1.3	1.1	0.7	0.4	0.5
<b>Navy</b>							
Females	1.1	0.9	0.7	0.6	0.5	0.5	0.3
Males	1.5	0.9	0.9	0.6	0.5	0.3	0.2
Total	1.4	0.8	0.8	0.5	0.5	0.3	0.2
<b>Marine Corps</b>							
Females	1.7	1.3	1.8	1.0	1.1	0.8	0.5
Males	2.3	1.8	1.8	1.5	0.6	0.4	0.3
Total	2.1	1.8	1.7	1.4	0.6	0.4	0.2
<b>Air Force</b>							
Females	2.4	3.4	2.7	2.2	2.0	1.6	1.0
Males	2.4	2.3	1.8	1.1	1.0	0.6	0.5
Total	2.1	2.0	1.5	1.0	0.9	0.6	0.4
<b>Total Active-Duty Personnel</b>							
Females	1.2	1.5	1.2	1.1	0.9	0.6	0.6
Males	1.2	1.0	0.8	0.6	0.4	0.2	0.2
Total	1.1	0.9	0.7	0.5	0.4	0.2	0.2

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 12ASE Standard Errors for Table 12A: Reasons for Visiting Military Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Reason/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Treatment of an Illness or Injury</b>							
Females	5.0	7.1	4.5	4.7	6.8	5.7	2.9
Males	4.5	4.2	3.1	3.1	6.1	3.7	2.2
Total	3.5	3.8	2.7	3.0	4.7	3.2	1.9
<b>Follow-Up Visit for an Illness or Injury</b>							
Females	5.0	7.1	3.9	4.8	6.4	5.2	2.9
Males	3.3	4.0	2.7	2.7	5.5	2.8	2.0
Total	2.8	3.6	2.3	2.6	4.3	2.5	1.7
<b>Injury</b>							
Females	5.0	7.2	4.5	4.5	6.8	5.8	2.9
Males	4.6	4.0	3.1	3.3	5.9	4.1	2.2
Total	3.6	3.7	2.7	3.1	4.7	3.6	1.9
<b>General Physical Exam</b>							
Females	5.0	7.2	4.5	4.5	6.8	5.8	2.9
Males	4.6	4.0	3.1	3.3	5.9	4.1	2.2
Total	3.6	3.7	2.7	3.1	4.7	3.6	1.9
<b>Prescription Refill Only</b>							
Females	4.7	6.6	4.0	4.2	5.3	5.4	2.7
Males	2.7	2.4	1.8	1.9	3.9	2.1	1.3
Total	2.5	2.3	1.7	1.8	3.2	2.0	1.2
<b>Eye Exam Only</b>							
Females	3.4	6.8	3.2	4.6	4.7	5.3	2.5
Males	3.5	3.4	2.4	2.7	5.9	3.1	1.8
Total	2.7	3.1	2.0	2.6	4.5	2.8	1.5
<b>Prenatal Care</b>							
Females	1.3	3.5	1.6	2.8	3.0	2.8	1.2
<b>Same Day Surgery</b>							
Females	2.9	3.9	1.2	2.5	4.0	1.6	1.6
Males	1.4	2.1	1.0	1.3	0.6	1.2	1.0
Total	1.3	1.9	0.9	1.3	1.3	1.1	0.9
<b>Mental Health Care</b>							
Females	2.1	**	1.5	0.9	0.7	2.3	0.9
Males	0.1	1.6	0.8	0.4	0.1	1.0	0.7
Total	0.7	1.4	0.7	0.4	0.2	0.9	0.6
<b>Emergency Care</b>							
Females	3.5	5.1	3.1	3.5	4.1	3.7	2.0
Males	2.2	2.4	1.8	1.6	4.0	1.7	1.2
Total	1.9	2.2	1.0	1.6	3.1	1.6	1.0

Note: Table entries are percentages.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 12BSE Standard Errors for Table 12B: Reasons for Visiting Military Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Reason/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Treatment of an Illness or Injury</b>					
Females	2.2	1.1	1.3	3.1	1.3
Males	1.9	1.5	3.7	2.5	1.1
Total	1.6	1.4	3.5	2.1	1.0
<b>Follow-Up Visit for an Illness or Injury</b>					
Females	2.7	1.0	2.5	3.6	1.6
Males	2.4	1.5	3.4	2.6	1.2
Total	2.1	1.3	3.3	2.2	1.0
<b>General Physical Exam</b>					
Females	2.9	1.5	1.9	3.5	1.6
Males	2.4	1.6	4.4	2.6	1.3
Total	2.1	1.4	4.2	2.2	1.2
<b>Prescription Refill Only</b>					
Females	2.9	1.3	1.9	3.6	1.6
Males	2.1	1.2	2.5	2.2	1.0
Total	1.8	1.2	2.4	1.9	0.9
<b>Eye Exam Only</b>					
Females	2.9	1.5	1.6	3.5	1.6
Males	2.4	1.3	3.0	2.5	1.2
Total	2.1	1.2	2.8	2.1	1.1
<b>Prenatal Care</b>					
Females	2.2	1.2	1.7	2.6	1.2
<b>Same Day Surgery</b>					
Females	1.9	0.8	1.9	2.5	1.1
Males	1.6	0.7	1.5	1.8	0.7
Total	1.4	0.6	1.5	1.5	0.6
<b>Mental Health Care</b>					
Females	1.3	0.5	1.4	2.4	0.9
Males	1.3	0.5	1.2	1.1	0.5
Total	1.1	0.4	1.1	1.0	0.5
<b>Emergency Care</b>					
Females	2.7	1.4	2.2	3.1	1.5
Males	1.9	1.4	2.6	1.7	0.9
Total	1.7	1.2	2.5	1.5	0.8

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 13ASE Standard Errors for Table 13A: Number of Visits to a Military Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Visits/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>No Visits</b>							
Females	4.2	4.1	3.0	2.8	5.8	4.1	2.2
Males	3.9	3.8	2.7	3.0	4.9	3.8	2.0
Total	3.0	3.4	2.3	2.8	3.8	3.3	1.7
<b>One Visit</b>							
Females	3.7	5.7	3.9	3.6	6.0	4.8	2.3
Males	3.9	3.3	3.0	2.6	5.7	3.8	1.8
Total	2.9	3.0	2.5	2.4	4.4	3.2	1.5
<b>Two Visits</b>							
Females	2.5	4.6	3.2	3.0	2.0	3.4	1.7
Males	2.6	2.9	1.8	2.3	4.1	2.4	1.5
Total	2.0	2.6	1.6	2.2	3.0	2.1	1.2
<b>Three Visits</b>							
Females	2.6	3.6	2.4	2.8	2.9	3.4	1.5
Males	3.1	2.7	1.9	1.6	4.8	2.9	1.4
Total	2.3	2.4	1.6	1.5	3.6	2.4	1.2
<b>Four or More Visits</b>							
Females	4.9	7.1	4.2	4.7	6.6	5.7	2.9
Males	4.2	3.5	2.9	3.0	5.3	2.5	1.9
Total	3.3	3.2	2.5	2.8	4.3	2.4	1.6
<b>At Least One Visit</b>							
Females	4.2	4.1	3.0	2.8	5.8	4.1	2.2
Males	3.9	3.8	2.7	3.0	4.9	3.8	2.0
Total	3.0	3.4	2.3	2.8	3.8	3.3	1.7

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 13BSE Standard Errors for Table 13B: Number of Visits to a Military Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Visits/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>No Visits</b>					
Females	0.6	0.3	0.7	0.7	0.3
Males	0.8	1.1	1.9	0.7	0.6
Total	0.7	1.0	1.8	0.6	0.6
<b>One Visit</b>					
Females	0.6	0.5	0.8	0.3	0.3
Males	1.2	0.9	1.3	1.4	0.6
Total	1.0	0.8	1.2	1.1	0.6
<b>Two Visits</b>					
Females	1.5	0.3	1.0	1.4	0.7
Males	1.4	0.8	2.0	1.6	0.7
Total	1.2	0.7	1.9	1.3	0.6
<b>Three Visits</b>					
Females	0.9	0.5	0.9	1.9	0.7
Males	1.9	0.8	1.5	1.7	0.8
Total	1.6	0.7	1.4	1.4	0.7
<b>Four or More Visits</b>					
Females	1.9	0.9	2.2	2.4	1.1
Males	2.3	1.4	3.4	2.4	1.3
Total	2.0	1.3	3.3	2.0	1.1
<b>At Least One Visit</b>					
Females	0.6	0.3	0.7	0.7	0.3
Males	0.8	1.1	1.9	0.7	0.6
Total	0.7	1.0	1.8	0.6	0.6

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 14ASE Standard Errors for Table 14A: Reasons for Visiting a Civilian Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Reason/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Treatment of an Illness or Injury</b>							
Females	3.6	4.9	2.9	4.1	5.0	3.8	2.0
Males	3.0	3.0	2.3	2.6	4.2	2.6	1.5
Total	2.4	2.7	1.9	2.4	3.5	2.3	1.3
<b>Follow-Up Visit for an Illness or Injury</b>							
Females	3.6	5.2	3.0	4.0	5.2	4.1	2.1
Males	3.1	2.9	2.4	2.4	4.4	2.8	1.5
Total	2.5	2.6	2.0	2.3	3.6	2.4	1.3
<b>General Physical Exam</b>							
Females	3.5	5.1	3.0	4.2	5.2	4.0	2.1
Males	2.9	2.9	2.4	2.4	4.1	2.7	1.5
Total	2.4	2.6	2.0	2.2	3.4	2.3	1.3
<b>Prescription Refill Only</b>							
Females	3.6	4.9	3.1	3.9	5.2	3.9	2.1
Males	2.8	2.4	2.2	2.0	4.3	2.6	1.3
Total	2.3	2.2	1.9	1.9	3.5	2.3	1.2
<b>Eye Exam Only</b>							
Females	3.6	5.1	3.1	4.1	5.3	4.1	2.1
Males	3.0	2.7	2.4	2.3	4.1	2.7	1.4
Total	2.4	2.5	2.0	2.2	3.4	2.4	1.3
<b>Prenatal Care</b>							
Females	2.0	3.2	1.6	2.8	2.0	1.9	1.2
<b>Same Day Surgery</b>							
Females	2.1	3.7	2.1	1.4	3.5	2.7	1.4
Males	1.4	1.9	1.3	1.3	3.3	1.8	1.0
Total	1.2	1.7	1.1	1.3	2.7	1.5	0.8
<b>Mental Health Care</b>							
Females	1.6	1.2	1.5	2.2	2.5	2.2	0.8
Males	0.9	1.0	0.8	0.8	1.7	1.1	0.5
Total	0.8	0.9	0.7	0.8	1.4	1.0	0.5
<b>Emergency Care</b>							
Females	3.1	4.4	2.4	2.9	3.8	3.3	1.8
Males	2.2	2.1	1.8	1.9	2.8	2.1	1.1
Total	1.8	1.9	1.5	1.8	2.4	1.8	0.9

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 14BSE Standard Errors for Table 14B: Reasons for Visiting a Civilian Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Reason/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Treatment of an Illness or Injury</b>					
Females	3.5	0.9	1.3	3.6	1.3
Males	2.9	0.8	1.9	3.6	1.1
Total	2.5	0.8	1.8	3.0	1.0
<b>Follow-Up Visit for an Illness or Injury</b>					
Females	2.3	0.5	0.6	2.1	0.8
Males	1.9	0.7	1.7	1.4	0.7
Total	1.6	0.6	1.6	1.2	0.6
<b>General Physical Exam</b>					
Females	1.9	0.4	1.3	2.7	0.8
Males	2.4	0.3	0.8	0.4	0.5
Total	2.0	0.3	0.7	0.7	0.5
<b>Prescription Refill Only</b>					
Females	2.3	0.5	0.9	2.6	0.9
Males	1.3	0.2	0.7	0.9	0.4
Total	1.1	0.2	0.7	0.9	0.3
<b>Eye Exam Only</b>					
Females	2.8	0.8	1.5	4.9	1.3
Males	2.7	0.7	1.3	2.2	0.7
Total	2.3	0.6	1.2	2.0	0.7
<b>Prenatal Care</b>					
Females	3.3	0.8	2.7	2.5	1.2
<b>Same Day Surgery</b>					
Females	1.2	0.3	0.7	0.8	0.4
Males	1.8	0.2	0.7	0.6	0.4
Total	1.5	0.2	0.6	0.5	0.4
<b>Mental Health Care</b>					
Females	1.1	0.3	0.3	1.8	0.5
Males	1.5	0.3	0.7	0.5	0.4
Total	1.3	0.3	0.7	0.6	0.3
<b>Emergency Care</b>					
Females	3.1	0.6	0.8	2.6	1.1
Males	1.7	0.8	0.8	1.9	0.6
Total	1.5	0.7	0.8	1.6	0.5

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 15ASE Standard Errors for Table 15A: Number of Visits to a Civilian Health Care Provider Among Reserve/Guard Personnel in the Past 12 Months**

Visits/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>No Visits</b>							
Females	1.1	2.9	1.0	2.2	2.7	1.6	1.0
Males	1.7	2.1	1.2	1.6	1.8	0.9	1.0
Total	1.3	1.9	1.0	1.5	1.5	0.8	0.9
<b>One Visit</b>							
Females	1.7	2.7	1.5	2.8	2.9	1.7	1.0
Males	2.2	1.9	1.7	2.0	2.3	2.2	1.0
Total	1.7	1.7	1.4	1.9	1.9	1.8	0.9
<b>Two Visits</b>							
Females	2.3	2.4	2.0	2.2	3.2	1.9	1.2
Males	2.3	2.0	1.6	1.9	2.9	2.0	1.1
Total	1.8	1.8	1.4	1.8	2.3	1.7	0.9
<b>Three Visits</b>							
Females	2.0	2.8	1.7	2.3	3.3	3.0	1.2
Males	1.7	2.1	1.5	1.7	3.1	1.8	1.0
Total	1.4	1.9	1.2	1.6	2.5	1.6	0.9
<b>Four or More Visits</b>							
Females	3.3	4.7	2.8	4.0	5.1	3.8	1.9
Males	3.1	2.9	2.3	2.5	4.2	2.7	1.5
Total	2.4	2.6	1.9	2.4	3.5	2.4	1.3
<b>At Least One Visit</b>							
Females	1.1	2.9	1.0	2.2	2.7	1.6	1.0
Males	1.7	2.1	1.2	1.6	1.8	0.9	1.0
Total	1.3	1.9	1.0	1.5	1.5	0.8	0.9

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 15BSE Standard Errors for Table 15B: Number of Visits to a Civilian Health Care Provider Among Active-Duty Personnel in the Past 12 Months**

Visits/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>No Visits</b>					
Females	4.1	1.5	3.3	5.6	2.1
Males	3.8	1.4	2.5	4.0	1.5
Total	3.2	1.3	2.3	3.4	1.5
<b>One Visit</b>					
Females	3.2	0.5	1.0	5.9	1.6
Males	2.7	0.9	1.9	3.5	0.9
Total	2.3	0.8	1.8	3.0	0.9
<b>Two Visits</b>					
Females	2.9	0.6	1.2	2.6	1.0
Males	2.9	0.3	0.5	1.9	0.7
Total	2.4	0.3	0.5	1.6	0.7
<b>Three Visits</b>					
Females	1.7	0.4	0.8	0.6	0.5
Males	1.6	0.2	0.4	1.2	0.4
Total	1.4	0.2	0.4	0.9	0.4
<b>Four or More Visits</b>					
Females	3.0	1.0	2.7	3.6	1.3
Males	2.3	0.7	1.2	1.8	0.7
Total	2.0	0.7	1.2	1.6	0.7
<b>At Least One Visit</b>					
Females	4.1	1.5	3.3	5.6	2.1
Males	3.8	1.4	2.5	4.0	1.5
Total	3.2	1.3	2.3	3.4	1.5

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 16ASE Standard Errors for Table 16A: Perceived Physical Fitness Among Reserve/Guard Personnel**

Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Females</b>								
Excellent	2.1	2.3	0.8	2.0	2.4	1.8	1.0	
Very good	2.4	4.1	2.7	3.1	4.2	3.4	1.6	
Good	3.3	4.8	2.8	3.7	4.8	3.6	1.9	
Fair	2.8	3.2	2.5	3.1	4.1	3.1	1.5	
Poor	1.0	1.7	0.9	1.8	2.1	1.0	0.7	
<b>Males</b>								
Excellent	0.9	0.8	0.7	0.7	1.0	0.8	0.4	
Very good	2.2	1.9	1.6	1.5	2.9	1.8	1.0	
Good	2.8	2.5	2.1	2.1	3.9	2.4	1.4	
Fair	2.4	2.3	1.8	2.1	3.4	2.3	1.2	
Poor	1.4	1.2	1.3	1.6	2.1	1.3	0.7	
<b>Total</b>								
Excellent	0.9	0.7	0.6	0.6	0.9	0.7	0.4	
Very good	1.7	1.7	1.4	1.5	2.4	1.6	0.9	
Good	2.2	2.3	1.8	2.0	3.2	2.1	1.2	
Fair	1.9	2.1	1.6	2.0	2.8	2.0	1.1	
Poor	1.1	1.1	1.1	1.5	1.7	1.1	0.6	

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 16BSE Standard Errors for Table 16B: Perceived Physical Fitness Among Active-Duty Personnel**

Sex/Level	Army	Navy	Marine Corps	Air Force	Total	Active-Duty Personnel
<b>Females</b>						
Excellent	1.1	0.5	1.3	1.3	0.6	
Very good	2.2	1.1	1.5	3.1	1.4	
Good	2.8	1.3	2.3	3.5	1.6	
Fair	2.6	1.0	2.3	2.6	1.3	
Poor	1.4	0.6	1.6	1.2	0.7	
<b>Males</b>						
Excellent	0.5	0.5	0.8	0.6	0.3	
Very good	1.6	1.3	1.6	1.8	0.8	
Good	2.1	1.3	2.1	2.5	1.1	
Fair	2.2	1.3	2.0	2.3	1.0	
Poor	1.3	0.9	1.7	1.2	0.7	
<b>Total</b>						
Excellent	0.4	0.4	0.8	0.6	0.3	
Very good	1.4	1.1	1.4	1.6	0.7	
Good	1.9	1.2	2.0	2.1	0.9	
Fair	1.9	1.2	1.9	1.9	0.9	
Poor	1.1	0.8	1.6	1.0	0.6	

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 17ASE Standard Errors for Table 17A: Selected Eating Behaviors in the Past Week Among Reserve/Guard Personnel**

Behavior/Days/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Number of Days Ate Breakfast</b>							
<b>0 to 2 days</b>							
Females	3.3	4.7	2.8	3.6	4.6	3.6	1.9
Males	2.6	2.5	2.1	2.1	3.5	2.2	1.3
Total	2.1	2.3	1.8	2.0	3.0	2.0	1.1
<b>3 to 5 days</b>							
Females	3.0	4.5	2.6	3.4	4.1	3.6	1.8
Males	2.6	2.4	2.0	2.1	3.5	2.2	1.3
Total	2.1	2.2	1.7	2.0	2.9	1.9	1.1
<b>6 to 7 days</b>							
Females	3.1	4.2	2.6	3.3	4.7	3.4	1.8
Males	2.6	2.4	2.0	2.0	3.8	2.4	1.3
Total	2.1	2.2	1.7	2.0	3.2	2.1	1.1
<b>Number of Days Ate Snacks Between Meals</b>							
<b>0 to 2 days</b>							
Females	2.8	4.6	2.8	3.3	4.8	3.3	1.8
Males	2.5	2.5	2.0	1.9	3.6	2.2	1.3
Total	2.0	2.3	1.7	1.8	3.0	2.0	1.1
<b>3 to 5 days</b>							
Females	3.2	4.5	2.8	3.6	4.3	3.6	1.8
Males	2.7	2.4	2.0	2.2	3.9	2.4	1.3
Total	2.2	2.2	1.7	2.1	3.2	2.1	1.1
<b>6 to 7 days</b>							
Females	3.3	4.4	2.5	3.6	4.6	3.7	1.9
Males	2.5	2.4	2.0	2.1	3.5	2.3	1.3
Total	2.1	2.2	1.7	2.0	3.0	2.0	1.1
<b>Number of Days Overate</b>							
<b>0 to 2 days</b>							
Females	2.6	3.7	2.2	3.0	3.5	2.7	1.5
Males	2.2	2.0	1.7	1.8	3.3	2.0	1.1
Total	1.8	1.8	1.5	1.7	2.7	1.7	0.9
<b>3 to 5 days</b>							
Females	1.9	3.3	2.0	2.6	3.2	2.3	1.3
Males	2.0	1.7	1.5	1.6	2.9	1.9	0.9
Total	1.6	1.6	1.3	1.5	2.4	1.6	0.8
<b>6 to 7 days</b>							
Females	2.0	2.0	1.1	1.7	1.7	1.5	1.0
Males	1.0	1.2	0.9	1.0	1.8	0.8	0.6
Total	0.9	1.1	0.8	1.0	1.5	0.7	0.5

See notes at end of table.

(continued)

**Table 17ASE (continued)**

Behavior/Days/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Number of Days Did Not Eat Enough</b>							
<b>0 to 2 days</b>							
Females	3.1	4.7	2.5	3.5	3.8	3.4	1.8
Males	2.1	2.2	1.7	2.0	3.0	1.7	1.1
Total	1.7	2.0	1.5	1.9	2.5	1.6	1.0
<b>3 to 5 days</b>							
Females	2.6	4.4	2.1	3.3	3.1	3.0	1.7
Males	1.9	2.1	1.6	1.8	2.9	1.5	1.1
Total	1.5	1.9	1.4	1.7	2.4	1.4	0.9
<b>6 to 7 days</b>							
Females	2.2	2.7	1.7	1.9	2.4	2.2	1.2
Males	1.0	1.0	0.7	1.3	1.0	0.9	0.5
Total	0.9	0.9	0.7	1.2	0.9	0.9	0.5
<b>Number of Days Took Vitamins</b>							
<b>0 to 2 days</b>							
Females	3.1	4.6	2.9	3.5	4.9	3.8	1.9
Males	2.7	2.3	2.1	2.0	3.7	2.4	1.3
Total	2.2	2.1	1.8	1.9	3.1	2.1	1.1
<b>3 to 5 days</b>							
Females	2.4	2.3	1.9	2.4	3.0	3.1	1.2
Males	1.9	1.4	1.5	1.3	2.1	1.6	0.8
Total	1.5	1.3	1.3	1.2	1.8	1.5	0.7
<b>6 to 7 days</b>							
Females	2.7	4.4	2.8	3.1	4.8	3.5	1.8
Males	2.4	2.0	1.8	1.7	3.4	2.2	1.1
Total	1.9	1.9	1.6	1.7	2.9	1.9	1.0

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 17BSE Standard Errors for Table 17B: Selected Eating Behaviors in the Past Week Among Active-Duty Personnel**

Behavior/Days/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Number of Days Ate Breakfast</b>					
<b>0 to 2 days</b>					
Females	2.7	1.1	2.1	3.4	1.6
Males	2.0	1.4	3.6	2.4	1.2
Total	1.7	1.2	3.4	2.1	1.1
<b>3 to 5 days</b>					
Females	2.7	0.9	1.6	3.0	1.4
Males	2.2	1.3	2.5	2.3	1.1
Total	1.9	1.2	2.3	2.0	1.0
<b>6 to 7 days</b>					
Females	2.6	1.3	2.0	3.3	1.5
Males	2.0	1.3	1.9	2.2	1.1
Total	1.8	1.2	1.8	1.9	1.0
<b>Number of Days Ate Snacks Between Meals</b>					
<b>0 to 2 days</b>					
Females	2.5	0.9	2.5	2.9	1.4
Males	2.1	1.4	3.5	2.2	1.1
Total	1.8	1.3	3.3	1.9	1.0
<b>3 to 5 days</b>					
Females	2.8	1.0	2.2	3.5	1.6
Males	2.1	1.1	1.7	2.4	1.0
Total	1.9	0.9	1.6	2.1	0.9
<b>6 to 7 days</b>					
Females	2.8	0.7	2.6	3.0	1.5
Males	2.1	1.4	3.4	2.3	1.1
Total	1.8	1.2	3.2	2.0	1.0
<b>Number of Days Overage</b>					
<b>0 to 2 days</b>					
Females	2.0	0.7	1.7	2.3	1.1
Males	1.7	1.3	3.2	2.1	0.9
Total	1.4	1.2	3.0	1.7	0.8
<b>3 to 5 days</b>					
Females	1.7	0.6	1.1	1.9	0.9
Males	1.5	0.9	3.6	1.9	0.9
Total	1.3	0.8	3.4	1.6	0.8
<b>6 to 7 days</b>					
Females	1.2	0.5	0.9	1.4	0.6
Males	0.9	0.6	1.7	1.0	0.5
Total	0.8	0.5	1.6	0.8	0.4

See notes at end of table.

(continued)

**Table 17BSE (continued)**

Behavior/Days/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Number of Days Did Not Eat Enough</b>					
<b>0 to 2 days</b>					
Females	2.6	1.2	2.4	3.0	1.4
Males	2.0	1.6	1.9	1.7	1.0
Total	1.7	1.4	1.7	1.5	0.9
<b>3 to 5 days</b>					
Females	2.4	0.9	2.3	2.8	1.3
Males	1.5	1.4	1.7	1.5	0.8
Total	1.4	1.3	1.6	1.3	0.7
<b>6 to 7 days</b>					
Females	1.4	0.5	1.1	1.4	0.7
Males	1.5	0.6	1.1	0.9	0.6
Total	1.3	0.5	1.0	0.8	0.5
<b>Number of Days Took Vitamins</b>					
<b>0 to 2 days</b>					
Females	2.8	1.0	1.8	3.4	1.5
Males	2.0	1.1	2.8	2.3	1.1
Total	1.8	1.0	2.7	1.9	1.0
<b>3 to 5 days</b>					
Females	1.7	0.6	0.9	2.6	1.1
Males	1.3	0.8	1.5	1.5	0.6
Total	1.1	0.7	1.4	1.3	0.6
<b>6 to 7 days</b>					
Females	2.6	0.9	2.1	2.8	1.4
Males	1.8	0.8	2.1	1.9	0.9
Total	1.6	0.7	2.0	1.7	0.8

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 18ASE Standard Errors for Table 18A: Dietary Behaviors and Attitudes Among Reserve/Guard Personnel**

Behaviors and Attitudes/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Have Tried to Lose Weight in Past Year</b>							
Females	3.3	4.5	2.8	3.4	4.7	3.4	1.9
Males	2.8	2.5	2.1	2.1	3.9	2.4	1.4
Total	2.3	2.3	1.8	2.0	3.2	2.1	1.2
<b>Have Changed Diet Because of Medical Conditions</b>							
Females	2.4	2.7	2.0	2.3	3.3	2.9	1.3
Males	1.6	1.5	1.2	0.9	2.2	1.5	0.8
Total	1.3	1.4	1.0	0.9	1.9	1.3	0.7
<b>Satisfied with Eating Patterns</b>							
Females	3.3	4.8	2.8	3.7	4.9	3.8	2.0
Males	2.6	2.3	2.1	2.2	3.7	2.4	1.3
Total	2.1	2.1	1.8	2.1	3.1	2.1	1.1
<b>Eat in Secret</b>							
Females	2.0	2.5	1.5	2.5	2.4	1.9	1.1
Males	1.1	1.0	1.1	0.5	1.5	0.7	0.5
Total	1.0	1.0	0.9	0.5	1.3	0.6	0.5
<b>Feel Diet or Food Choices Are Important in Terms of Health</b>							
Females	3.1	4.7	2.7	3.3	4.2	3.0	1.9
Males	2.6	2.5	1.9	2.0	3.4	2.3	1.3
Total	2.1	2.3	1.7	1.9	2.8	2.0	1.2

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 18BSE Standard Errors for Table 18B: Dietary Behaviors and Attitudes Among Active-Duty Personnel**

Behaviors and Attitudes/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Have Tried to Lose Weight in Past Year</b>					
Females	2.7	0.8	1.4	2.9	1.4
Males	2.1	1.6	3.3	2.5	1.2
Total	1.9	1.4	3.1	2.1	1.1
<b>Have Changed Diet Because of Medical Conditions</b>					
Females	2.4	0.9	1.5	1.9	1.1
Males	1.2	0.9	1.2	0.9	0.6
Total	1.1	0.8	1.1	0.8	0.5
<b>Satisfied with Eating Patterns</b>					
Females	2.8	0.7	2.0	3.5	1.6
Males	2.2	1.4	2.8	2.4	1.1
Total	1.9	1.2	2.7	2.1	1.0
<b>Eat in Secret</b>					
Females	1.7	0.4	1.1	1.9	0.9
Males	0.8	0.4	1.9	0.8	0.5
Total	0.7	0.4	1.8	0.7	0.4
<b>Feel Diet or Food Choices Are Important in Terms of Health</b>					
Females	2.7	0.7	1.9	3.3	2.5
Males	2.3	1.2	2.2	2.4	2.0
Total	2.0	1.0	2.1	2.1	2.0

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 19ASE Standard Errors for Table 19A: Factors Considered Important in Purchasing Food Among Reserve/Guard Personnel**

Factors/Sex	Army Reserve	Army National Guard	National Guard Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Health Benefits/</b>							
<b>Nutritional Value</b>							
Females	3.2	4.7	2.9	3.7	4.8	3.8	1.9
Males	2.7	2.4	2.1	2.1	3.9	2.4	1.3
Total	2.2	2.2	1.8	2.0	3.3	2.1	1.2
<b>Price, Cost</b>							
Females	3.3	4.8	2.6	3.6	4.9	3.8	1.9
Males	2.8	2.5	2.2	2.1	3.9	2.4	1.4
Total	2.2	2.3	1.8	2.0	3.3	2.1	1.2
<b>Taste/Likes or Dislikes, Eating Enjoyment</b>							
Females	2.2	3.4	2.1	3.2	2.9	2.7	1.3
Males	2.3	2.2	1.7	1.7	3.5	2.0	1.1
Total	1.8	2.0	1.5	1.6	2.8	1.8	1.0
<b>Convenience, Ease of Preparation</b>							
Females	3.3	4.8	2.9	3.7	4.8	3.7	1.9
Males	2.7	2.6	2.1	2.2	3.9	2.4	1.4
Total	2.2	2.3	1.8	2.1	3.2	2.1	1.2
<b>Calories</b>							
Females	3.1	4.2	2.8	3.6	4.6	3.7	1.8
Males	2.3	2.1	1.8	1.6	3.3	1.7	1.1
Total	1.9	1.9	1.5	1.5	2.8	1.6	1.0

Note: Table entries are percentages. Important is defined as "very important" or "extremely important" when purchasing foods.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 19BSE Standard Errors for Table 19B: Factors Considered Important in Purchasing Food Among Active-Duty Personnel**

Factors/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Health Benefits/</b>					
<b>Nutritional Value</b>					
Females	2.8	1.5	1.4	3.5	1.6
Males	1.9	1.5	3.2	2.3	1.1
Total	1.7	1.4	3.1	2.0	0.9
<b>Price, Cost</b>					
Females	2.6	1.4	2.1	3.4	1.5
Males	2.2	1.7	2.8	2.5	1.2
Total	1.9	1.6	2.7	2.1	1.1
<b>Taste/Likes or Dislikes, Eating Enjoyment</b>					
Females	2.1	0.8	1.5	2.7	1.2
Males	1.8	1.0	2.3	1.7	0.9
Total	1.6	0.9	2.2	1.5	0.8
<b>Convenience, Ease of Preparation</b>					
Females	2.8	1.2	2.3	3.5	1.6
Males	2.2	1.2	1.6	2.5	1.1
Total	1.9	1.1	1.5	2.1	0.9
<b>Calories</b>					
Females	2.7	1.1	2.1	3.2	1.5
Males	1.6	1.1	3.2	1.9	0.9
Total	1.4	1.0	3.1	1.7	0.8

Note: Table entries are percentages. Important is defined as "very important" or "extremely important" when purchasing foods.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 20ASE Standard Errors for Table 20A: Hours of Sleep on an Average Night Among Reserve/Guard Personnel**

Hours/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Less Than 5 Hours</b>							
Females	1.7	1.8	1.4	0.5	3.0	2.3	0.9
Males	1.4	0.8	1.0	1.1	1.6	0.8	0.5
Total	1.2	0.7	0.8	1.0	1.4	0.7	0.4
<b>5 to 6 Hours</b>							
Females	3.3	4.7	2.8	3.7	4.9	3.7	1.9
Males	2.8	2.5	2.1	2.2	3.9	2.5	1.4
Total	2.2	2.3	1.8	2.1	3.2	2.1	1.2
<b>7 to 8 Hours</b>							
Females	3.3	4.8	2.7	3.7	4.5	3.8	1.9
Males	2.7	2.5	2.1	2.1	3.9	2.5	1.4
Total	2.2	2.3	1.8	2.0	3.2	2.1	1.2
<b>9 Hours or More</b>							
Females	1.2	1.5	0.9	1.6	2.4	0.8	0.7
Males	1.0	1.3	0.5	1.1	1.4	0.7	0.6
Total	0.8	1.1	0.4	1.1	1.2	0.6	0.5

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 20BSE Standard Errors for Table 20B: Hours of Sleep on an Average Night Among Active-Duty Personnel**

Hours/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Less Than 5 Hours</b>					
Females	2.0	0.4	1.0	2.0	1.0
Males	1.4	0.8	1.3	0.9	0.6
Total	1.2	0.7	1.2	0.8	0.5
<b>5 to 6 Hours</b>					
Females	2.8	1.1	2.0	3.4	1.6
Males	2.2	1.6	2.5	2.5	1.1
Total	1.9	1.4	2.4	2.1	1.0
<b>7 to 8 Hours</b>					
Females	2.7	1.2	2.0	3.4	1.6
Males	2.0	1.7	2.4	2.5	1.1
Total	1.8	1.5	2.3	2.1	1.0
<b>9 Hours or More</b>					
Females	1.2	0.5	0.8	1.8	0.7
Males	0.8	0.3	1.2	0.9	0.4
Total	0.7	0.3	1.1	0.8	0.4

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 21ASE Standard Errors for Table 21A: Alcohol Use Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Days Drank Alcohol in Past 30 Days</b>							
<b>Females</b>							
28 to 30 days	0.9	1.1	0.7	0.6	0.8	0.9	0.5
20 to 27 days	1.1	1.5	0.4	1.2	1.6	1.8	0.6
11 to 19 days	1.6	2.2	1.4	2.1	2.2	1.6	0.9
4 to 10 days	2.0	3.1	1.9	2.8	3.7	3.0	1.3
1 to 3 days	3.3	4.7	2.8	3.7	4.5	3.7	1.9
0 days	3.0	4.6	2.8	3.2	4.7	3.4	1.8
<b>Males</b>							
28 to 30 days	0.9	0.9	1.0	0.9	1.9	1.0	0.5
20 to 27 days	0.9	1.0	0.8	1.0	1.7	1.1	0.5
11 to 19 days	1.8	1.4	1.4	1.3	2.8	1.6	0.8
4 to 10 days	2.1	1.8	1.8	1.9	2.9	2.1	1.0
1 to 3 days	2.6	2.4	2.0	2.1	3.6	2.3	1.3
0 days	2.6	2.4	1.8	1.6	3.4	2.0	1.3
<b>Total</b>							
28 to 30 days	0.7	0.8	0.8	0.8	1.5	0.8	0.4
20 to 27 days	0.7	0.9	0.7	1.0	1.4	1.0	0.4
11 to 19 days	1.4	1.3	1.2	1.3	2.2	1.4	0.7
4 to 10 days	1.6	1.7	1.5	1.8	2.4	1.8	0.9
1 to 3 days	2.1	2.2	1.7	2.0	3.0	2.0	1.1
0 days	2.1	2.2	1.6	1.6	2.9	1.7	1.1

See notes at end of table.

(continued)

**Table 21ASE (continued)**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Number of Drinks on a Typical Day<sup>a</sup></b>							
<b>Females</b>							
5 drinks or more	1.5	2.3	1.3	1.9	1.1	1.3	0.9
4 drinks	1.8	2.1	0.9	1.9	2.6	1.6	0.9
3 drinks	2.2	2.8	1.4	2.5	2.2	2.2	1.2
2 drinks	2.7	3.7	2.4	3.3	3.5	3.2	1.5
1 drink	2.6	4.1	2.4	2.9	4.3	3.4	1.6
0 drinks	3.1	4.5	2.8	3.3	4.7	3.4	1.8
<b>Males</b>							
5 drinks or more	1.7	1.9	1.4	2.0	2.1	1.5	1.0
4 drinks	1.2	1.5	1.2	1.3	2.5	1.5	0.8
3 drinks	1.7	1.8	1.2	1.5	2.5	1.7	0.9
2 drinks	2.1	1.8	1.9	1.7	3.2	2.2	1.0
1 drink	2.3	1.6	1.7	1.4	3.1	1.8	1.0
0 drinks	2.6	2.4	1.9	1.7	3.5	2.0	1.3
<b>Total</b>							
5 drinks or more	1.4	1.7	1.1	1.9	1.7	1.3	0.8
4 drinks	1.0	1.3	1.0	1.3	2.0	1.3	0.7
3 drinks	1.4	1.6	1.0	1.4	2.0	1.5	0.8
2 drinks	1.7	1.7	1.6	1.6	2.6	1.9	0.9
1 drink	1.9	1.5	1.5	1.4	2.6	1.6	0.9
0 drinks	2.1	2.2	1.6	1.6	2.9	1.8	1.1

Note: Table entries are percentages.

<sup>a</sup>The 1995 POWR Assessment asked, "During the past 30 days, how much alcohol did you drink on a typical day?" and the 1998 Total Force Assessment asked, "Think about the days when you drank in the past 30 days. How many drinks did you usually drink on a typical day?"

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 21BSE Standard Errors for Table 21B: Alcohol Use Among Active-Duty Personnel**

Measure/Sex/Level	Days Drank Alcohol in Past 30 Days	Total Active-Duty Personnel			
		Army	Navy	Marine Corps	Air Force
<b>Females</b>					
28 to 30 days	0.1	0.2	0.2	1.3	0.4
20 to 27 days	0.8	0.3	0.2	0.6	0.3
11 to 19 days	0.9	0.4	0.8	2.0	0.8
4 to 10 days	2.3	0.7	1.4	3.1	1.4
1 to 3 days	2.7	0.9	1.6	3.2	1.5
0 days	2.8	1.4	1.9	3.1	1.5
<b>Males</b>					
28 to 30 days	1.1	0.2	0.7	0.6	0.4
20 to 27 days	1.0	0.4	1.1	0.7	0.4
11 to 19 days	1.3	0.7	1.8	1.5	0.7
4 to 10 days	2.0	1.0	2.9	2.0	1.0
1 to 3 days	2.0	1.1	2.4	2.4	1.0
0 days	1.9	1.1	1.5	2.2	1.0
<b>Total</b>					
28 to 30 days	0.9	0.2	0.7	0.6	0.4
20 to 27 days	0.9	0.4	1.1	0.6	0.4
11 to 19 days	1.1	0.6	1.6	1.3	0.6
4 to 10 days	1.7	0.8	2.7	1.8	0.9
1 to 3 days	1.7	1.0	2.2	2.0	0.9
0 days	1.6	1.0	1.4	1.9	0.9

See notes at end of table.

(continued)

**Table 21BSE (continued)**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Number of Drinks on a Typical Day</b>					
<b>Females</b>					
5 drinks or more	1.8	0.6	0.9	2.5	1.1
4 drinks	1.4	0.3	0.8	2.0	0.8
3 drinks	1.4	0.6	1.0	2.2	0.9
2 drinks	2.0	0.6	2.2	2.9	1.2
1 drink	2.2	1.0	2.1	2.3	1.2
0 drinks	2.8	1.3	2.1	3.2	1.5
<b>Males</b>					
5 drinks or more	1.7	1.1	2.9	1.9	1.0
4 drinks	1.2	0.6	1.4	1.0	0.5
3 drinks	1.6	0.8	1.9	1.7	0.8
2 drinks	1.7	0.8	1.5	1.8	0.8
1 drink	1.6	1.3	2.5	2.0	0.9
0 drinks	1.9	0.9	1.7	2.2	1.0
<b>Total</b>					
5 drinks or more	1.5	1.0	2.7	1.6	0.9
4 drinks	1.1	0.5	1.3	0.9	0.5
3 drinks	1.4	0.7	1.8	1.5	0.7
2 drinks	1.5	0.6	1.5	1.6	0.8
1 drink	1.4	1.2	2.5	1.7	0.8
0 drinks	1.7	0.9	1.7	1.9	0.9

Note: Table entries are percentages.

<sup>a</sup>The 1995 POWR Assessment asked, "During the past 30 days, how much alcohol did you drink on a typical day?" and the 1998 Total Force Assessment asked, "Think about the days when you drank in the past 30 days. How many drinks did you usually drink on a typical day?"

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 22ASE Standard Errors for Table 22A: Cigarette Use and Exposure to Tobacco Smoke Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Cigarette Use</b>							
<b>Females</b>							
Current smoker <sup>a</sup>	3.1	4.0	2.7	3.0	3.5	3.3	1.7
Heavy smoker <sup>b</sup>	1.8	3.5	1.5	1.1	2.7	2.3	1.2
<b>Males</b>							
Current smoker <sup>a</sup>	2.3	2.5	1.9	2.0	3.3	2.1	1.3
Heavy smoker <sup>b</sup>	1.6	1.9	1.3	1.5	2.3	1.5	1.0
<b>Total</b>							
Current smoker <sup>a</sup>	1.9	2.2	1.6	1.9	2.7	1.9	1.1
Heavy smoker <sup>b</sup>	1.3	1.8	1.1	1.4	1.9	1.3	0.8
<b>Exposure to Tobacco Smoke Among Nonsmokers</b>							
<b>Females</b>							
Exposed at work	2.9	4.8	2.4	3.1	4.7	3.1	1.8
Exposed at home	3.2	4.4	1.7	3.0	3.7	1.8	1.7
Exposed at work and at home	3.6	5.4	2.7	3.7	5.1	3.3	2.1
<b>Males</b>							
Exposed at work	2.9	2.8	1.9	2.1	3.1	2.0	1.4
Exposed at home	1.9	2.1	1.1	1.8	1.5	1.2	1.0
Exposed at work and at home	3.0	2.9	2.0	2.4	3.3	2.1	1.5
<b>Total</b>							
Exposed at work	2.4	2.5	1.6	2.0	2.7	1.8	1.2
Exposed at home	1.7	2.0	0.9	1.7	1.4	1.0	0.9
Exposed at work and at home	2.5	2.7	1.7	2.2	2.8	1.9	1.3
<b>Exposure to Tobacco Smoke Among Smokers</b>							
<b>Females</b>							
Exposed at work	6.9	6.2	**	**	**	7.8	4.0
Exposed at home	6.5	6.1	**	**	**	7.7	3.9
Exposed at work and at home	6.1	5.8	**	**	**	7.4	3.8
<b>Males</b>							
Exposed at work	6.2	4.7	5.2	4.4	**	5.5	2.9
Exposed at home	6.3	4.7	5.1	4.5	**	5.5	2.9
Exposed at work and at home	5.1	4.3	4.7	4.0	**	5.2	2.7
<b>Total</b>							
Exposed at work	4.9	4.4	4.3	4.3	8.0	4.8	2.5
Exposed at home	4.8	4.4	4.2	4.4	7.8	4.8	2.6
Exposed at work and at home	4.0	4.1	3.9	3.8	7.8	4.5	2.3

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Current smoker is defined as smoking at least 100 cigarettes during one's lifetime and smoking in the past 30 days.

<sup>b</sup>Heavy smoker is defined as current smokers who smoke one or more packs of cigarettes per day.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 22BSE Standard Errors for Table 22B: Cigarette Use and Exposure to Tobacco Smoke Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Cigarette Use</b>					
<b>Females</b>					
Current smoker <sup>a</sup>	2.4	1.1	2.2	3.2	1.4
Heavy smoker <sup>b</sup>	1.3	0.6	1.2	2.0	0.9
<b>Males</b>					
Current smoker <sup>a</sup>	2.1	1.7	4.3	2.3	1.2
Heavy smoker <sup>b</sup>	1.8	1.0	2.5	1.4	0.8
<b>Total</b>					
Current smoker <sup>a</sup>	1.9	1.5	4.1	2.0	1.1
Heavy smoker <sup>b</sup>	1.5	0.9	2.4	1.2	0.7
<b>Exposure to Tobacco Smoke Among Nonsmokers</b>					
<b>Females</b>					
Exposed at work	2.7	1.3	3.3	1.8	1.2
Exposed at home	2.2	0.8	1.9	2.5	1.2
Exposed at work and at home	3.1	1.3	3.5	2.9	1.5
<b>Males</b>					
Exposed at work	2.5	1.3	2.9	2.1	1.2
Exposed at home	1.7	1.4	2.9	1.7	0.9
Exposed at work and at home	2.6	1.8	3.1	2.3	1.3
<b>Total</b>					
Exposed at work	2.1	1.2	2.7	1.7	1.0
Exposed at home	1.5	1.2	2.7	1.4	0.8
Exposed at work and at home	2.2	1.6	2.9	2.0	1.1
<b>Exposure to Tobacco Smoke Among Smokers</b>					
<b>Females</b>					
Exposed at work	6.1	2.2	4.1	**	3.7
Exposed at home	5.2	1.4	5.7	7.2	3.1
Exposed at work and at home	4.6	1.3	4.8	7.0	2.9
<b>Males</b>					
Exposed at work	4.5	3.8	6.5	5.7	2.5
Exposed at home	3.9	2.0	5.6	6.0	2.2
Exposed at work and at home	3.0	2.4	3.8	5.9	1.9
<b>Total</b>					
Exposed at work	4.1	3.3	6.3	4.9	2.3
Exposed at home	3.5	1.8	5.3	5.1	1.9
Exposed at work and at home	2.7	2.1	3.6	5.0	1.7

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Current smoker is defined as smoking at least 100 cigarettes during one's lifetime and smoking in the past 30 days.

<sup>b</sup>Heavy smoker is defined as current smokers who smoke one or more packs of cigarettes per day.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 23ASE Standard Errors for Table 23A: Availability and Use of Protective Gear in Current Military Job Among Reserve/Guard Personnel**

Availability and Use/Sex/Frequency		Army Reserve	National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
Availability of Protective Gear								
<b>Females</b>								
Always <sup>a</sup>	3.9	5.4	3.4	4.9	5.6	3.5	2.2	
Sometimes <sup>a</sup>	3.7	5.2	3.1	4.7	5.6	3.4	2.1	
Never <sup>a</sup>	1.8	2.4	2.0	2.8	1.3	1.1	1.0	
Don't need to use protective gear <sup>b</sup>	3.2	3.9	2.6	3.7	4.6	3.1	1.8	
<b>Males</b>								
Always <sup>a</sup>	3.3	2.7	2.4	2.4	3.2	2.1	1.4	
Sometimes <sup>a</sup>	3.2	2.6	2.4	2.4	3.2	2.0	1.4	
Never <sup>a</sup>	1.8	0.9	0.6	0.8	0.2	0.9	0.6	
Don't need to use protective gear <sup>b</sup>	2.3	1.8	1.6	1.7	2.4	1.3	1.0	
<b>Total</b>								
Always <sup>a</sup>	2.7	2.5	2.1	2.4	2.8	1.9	1.3	
Sometimes <sup>a</sup>	2.6	2.4	2.1	2.4	2.8	1.8	1.3	
Never <sup>a</sup>	1.4	0.9	0.6	0.7	0.3	0.8	0.5	
Don't need to use protective gear <sup>b</sup>	1.9	1.6	1.4	1.6	2.2	1.2	0.9	
<b>Use of Protective Gear</b>								
<b>Females</b>								
Always <sup>a</sup>	4.0	5.6	3.1	5.0	5.2	3.5	2.2	
Sometimes <sup>a</sup>	3.6	5.6	2.7	4.7	5.1	3.4	2.1	
Never <sup>a</sup>	2.5	1.2	1.8	2.9	1.8	1.1	1.0	
Don't need to use protective gear <sup>b</sup>	3.2	4.5	2.8	3.7	4.5	3.4	1.9	
<b>Males</b>								
Always <sup>a</sup>	3.4	2.8	2.3	2.4	4.3	2.5	1.5	
Sometimes <sup>a</sup>	3.4	2.8	2.2	2.5	4.3	2.4	1.5	
Never <sup>a</sup>	1.7	1.1	0.5	1.1	1.3	0.6	0.6	
Don't need to use protective gear <sup>b</sup>	2.5	1.8	1.6	1.7	2.9	1.6	1.0	
<b>Total</b>								
Always <sup>a</sup>	2.8	2.6	2.0	2.4	3.7	2.2	1.4	
Sometimes <sup>a</sup>	2.8	2.6	1.9	2.4	3.6	2.2	1.4	
Never <sup>a</sup>	1.4	1.0	0.5	1.1	1.1	0.5	0.6	
Don't need to use protective gear <sup>b</sup>	2.0	1.7	1.4	1.6	2.5	1.4	0.9	

Note: Table entries are percentages.

<sup>a</sup>This category excludes those who do not need to use protective gear.

<sup>b</sup>This category is the percentage of personnel who report they do not need to use protective gear.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 23BSE Standard Errors for Table 23B: Availability and Use of Protective Gear in Current Military Job Among Active-Duty Personnel**

Availability and Use/Sex/Frequency		Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Availability of Protective Gear</b>						
<b>Females</b>						
Always <sup>a</sup>	3.4	1.3	2.3	3.6	1.9	
Sometimes <sup>a</sup>	3.4	1.0	2.4	3.2	1.8	
Never <sup>a</sup>	1.9	1.1	1.6	1.8	1.0	
Don't need to use protective gear <sup>b</sup>	2.6	2.2	3.4	3.5	1.7	
<b>Males</b>						
Always <sup>a</sup>	2.5	1.3	1.7	2.4	1.4	
Sometimes <sup>a</sup>	2.5	1.3	1.9	2.3	1.4	
Never <sup>a</sup>	1.2	0.9	1.4	0.8	0.6	
Don't need to use protective gear <sup>b</sup>	1.4	2.4	2.8	1.9	1.0	
<b>Total</b>						
Always <sup>a</sup>	2.2	1.2	1.6	2.1	1.3	
Sometimes <sup>a</sup>	2.2	1.2	1.8	2.0	1.3	
Never <sup>a</sup>	1.1	0.9	1.4	0.7	0.5	
Don't need to use protective gear <sup>b</sup>	1.2	2.4	2.8	1.7	1.0	
<b>Use of Protective Gear</b>						
<b>Females</b>						
Always <sup>a</sup>	3.4	1.4	2.5	4.4	2.0	
Sometimes <sup>a</sup>	3.4	1.3	2.9	4.4	1.9	
Never <sup>a</sup>	1.5	0.6	1.0	1.5	0.8	
Don't need to use protective gear <sup>b</sup>	2.7	2.1	3.3	3.5	1.6	
<b>Males</b>						
Always <sup>a</sup>	2.3	1.3	2.6	2.7	1.3	
Sometimes <sup>a</sup>	2.4	1.2	2.4	2.7	1.3	
Never <sup>a</sup>	1.4	0.7	1.0	0.8	0.6	
Don't need to use protective gear <sup>b</sup>	1.5	1.9	2.2	1.9	0.9	
<b>Total</b>						
Always <sup>a</sup>	2.1	1.3	2.5	2.4	1.2	
Sometimes <sup>a</sup>	2.2	1.2	2.3	2.4	1.2	
Never <sup>a</sup>	1.2	0.6	1.0	0.7	0.5	
Don't need to use protective gear <sup>b</sup>	1.3	1.9	2.2	1.7	0.9	

Note: Table entries are percentages.

<sup>a</sup>This category excludes those who do not need to use protective gear.

<sup>b</sup>This category is the percentage of personnel who report they do not need to use protective gear.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 24ASE Standard Errors for Table 24A: Exposure to Disaster and Violence Among Reserve Personnel**

Exposure/Type	Army Reserve			Naval Reserve			Marine Corps Reserve			Air Force Reserve			Total Reserve Personnel		
	Females		Males	Total	Females		Males	Total	Females		Males	Total	Females		Males
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Exposed to a Natural Disaster Involving Injuries/Fatalities</b>															
Witness	2.7	2.6	2.1	2.4	1.8	1.5	3.0	1.8	1.8	3.4	3.9	3.2	1.8	1.5	1.3
Survivor or victim	2.5	2.0	1.6	2.3	1.4	1.2	2.5	1.5	1.4	3.7	3.7	3.0	1.7	1.7	1.0
Involved in relief efforts <sup>a</sup>	2.5	2.5	2.0	2.4	1.9	1.6	2.3	1.7	1.6	3.9	3.8	3.1	1.7	1.7	1.2
<b>Exposed to Combat or Violence Involving Injuries/Fatalities</b>															
Witness	2.0	2.4	1.9	1.8	1.6	1.4	2.1	2.0	1.9	2.6	3.6	2.9	1.4	1.4	1.1
Survivor or victim	1.3	2.0	1.5	1.7	1.3	1.1	1.5	1.4	1.3	1.4	2.6	2.0	0.9	1.1	0.9
Involved in relief efforts <sup>a</sup>	1.9	2.3	1.8	1.6	1.6	1.3	1.7	1.5	1.4	3.0	3.7	3.0	1.3	1.3	1.1
Used deadly force	1.2	1.6	1.3	0.5	1.1	0.9	0.6	1.0	0.9	0.4	2.5	2.0	0.7	0.9	0.8
<b>Exposed to a Major Accident Involving Injuries/Fatalities</b>															
Witness	3.2	2.7	2.2	2.5	2.2	1.8	3.5	2.2	2.1	4.2	4.0	3.3	2.1	1.6	1.3
Survivor or victim	2.3	2.1	1.7	1.9	1.4	1.2	2.6	1.5	1.5	3.4	2.9	2.4	1.5	1.5	1.0
Involved in relief efforts <sup>a</sup>	2.2	2.4	1.9	2.0	1.9	1.5	2.1	1.9	1.8	3.8	3.8	3.1	1.6	1.4	1.2

Note: Table entries are percentages.

<sup>a</sup>This item includes the following: participation in cleanup, rescue, investigation, or aid (remote or on-site).

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 24BSE Standard Errors for Table 24B: Exposure to Disaster and Violence Among Guard Personnel**

Exposure/Type	Army National Guard			Air National Guard			Total Guard Personnel		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
<b>Exposed to a Natural Disaster Involving Injuries/Fatalities</b>									
Witness	4.0	2.2	2.0	2.5	2.2	1.9	2.8	1.8	1.6
Survivor or victim	3.1	1.6	1.5	2.4	1.7	1.5	2.2	1.3	1.2
Involved in relief efforts <sup>a</sup>	4.1	2.6	2.3	3.0	2.3	2.0	3.0	2.1	1.9
<b>Exposed to Combat or Violence Involving Injuries/Fatalities</b>									
Witness	2.9	2.1	1.9	1.5	2.1	1.8	2.1	1.7	1.5
Survivor or victim	2.2	1.6	1.5	1.0	1.5	1.3	1.6	1.3	1.2
Involved in relief efforts <sup>a</sup>	2.3	2.2	2.0	1.9	2.1	1.8	1.7	1.8	1.6
Used deadly force	1.5	1.5	1.3	0.2	1.0	0.8	1.0	1.2	1.0
<b>Exposed to a Major Accident Involving Injuries/Fatalities</b>									
Witness	4.4	2.5	2.3	3.2	2.4	2.1	3.2	2.0	1.8
Survivor or victim	1.7	2.0	1.8	2.1	1.8	1.6	1.3	1.6	1.4
Involved in relief efforts <sup>a</sup>	3.8	2.4	2.2	3.1	2.3	2.0	2.8	1.9	1.7

Note: Table entries are percentages.

<sup>a</sup>This item includes the following: participation in cleanup, rescue, investigation, or aid (remote or on-site).

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 24CSE Standard Errors for Table 24C: Exposure to Disaster and Violence Among Active-Duty Personnel**

Exposure/Type	Army						Navy						Marine Corps						Air Force						Total Active-Duty Personnel												
	Females			Males			Total			Females			Males			Total			Females			Males			Total			Females			Males						
	Witness	Survivor or victim	Involved in relief efforts <sup>a</sup>	Witness	Survivor or victim	Involved in relief efforts <sup>a</sup>	Females	1.3	1.0	1.2	1.1	1.1	1.4	2.7	2.5	3.3	2.1	1.8	1.5	1.1	0.9	Witness	Survivor or victim	Involved in relief efforts <sup>a</sup>	Females	1.3	1.0	1.2	1.1	1.6	1.9	2.6	2.0	2.1	1.5	1.1	0.9
<b>Exposed to a Natural Disaster Involving Injuries/Fatalities</b>																																					
Witness	2.4	2.1	1.8	0.9	1.3	1.1	1.4	2.7	2.5	3.3	2.1	1.8	1.5	1.1	0.9	Witness	2.0	1.5	1.3	1.2	1.1	1.1	2.2	2.0	2.6	1.9	1.6	1.2	1.1	0.9	0.8						
Survivor or victim				1.0	1.2	1.1	1.1																														
Involved in relief efforts <sup>a</sup>	2.3	2.1	1.8	1.1	1.4	1.3	1.0	2.6	2.4	3.1	2.2	1.9	1.5	1.1	0.9	Witness	2.3	1.8	1.6	0.9	1.6	1.5	1.5	1.5	3.1	2.1	2.2	1.9	1.5	1.1	1.0	0.9					
<b>Exposed to Combat or Violence Involving Injuries/Fatalities</b>																																					
Witness	1.9	2.1	1.8	0.7	1.5	1.4	1.0	2.0	1.9	2.1	2.0	1.7	1.6	0.7	0.8	Witness	1.3	1.6	1.3	0.4	0.9	0.9	0.7	0.7	0.3	0.3	1.3	1.1	0.5	0.5	0.8	0.6					
Survivor or victim				0.4	0.4	0.4	0.8																														
Involved in relief efforts <sup>a</sup>	1.5	1.9	1.6	0.5	1.2	1.1	0.7	2.1	1.9	1.3	1.7	1.9	1.3	1.1	0.7	0.5	Used deadly force	0.5	1.4	1.2	0.1	0.7	0.6	0.1	0.1	0.5	0.5	0.5	0.5	0.7	0.7	0.9	0.8				
<b>Exposed to a Major Accident Involving Injuries/Fatalities</b>																																					
Witness	2.3	2.2	1.9	0.9	1.3	1.1	1.4	3.0	2.8	3.1	2.4	2.1	1.4	3.0	2.8	Witness	2.0	1.5	1.3	0.7	1.4	1.7	1.7	1.7	1.8	1.8	1.4	1.2	1.4	1.2	1.0	0.9					
Survivor or victim				0.7	1.7	1.4	1.4																														
Involved in relief efforts <sup>a</sup>	1.5	1.8	1.6	0.9	1.6	1.5	1.5	3.3	3.1	2.1	2.2	2.2	1.9	1.5	1.5	1.5	Used deadly force	1.5	1.8	1.6	0.9	1.6	1.5	1.5	1.5	3.1	2.1	2.2	1.9	1.5	1.1	1.0	0.9				

Note: Table entries are percentages.

<sup>a</sup>This item includes the following: participation in cleanup, rescue, investigation, or aid (remote or on-site).

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 25ASE Standard Errors for Table 25A: Job Stress Among Reserve/Guard Personnel**

Measure/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Job Stress Due to Responsibility</b>							
<b>Females</b>							
High	2.6	3.2	2.2	3.0	4.7	3.3	1.5
Medium	3.0	4.3	2.7	2.9	4.1	3.1	1.7
Low	3.4	4.8	2.9	3.6	4.9	3.8	2.0
<b>Males</b>							
High	2.6	2.4	2.0	1.8	3.7	2.3	1.3
Medium	2.5	2.3	1.9	2.1	3.7	2.2	1.2
Low	2.8	2.6	2.1	2.2	3.8	2.4	1.4
<b>Total</b>							
High	2.0	2.2	1.7	1.7	3.1	2.0	1.1
Medium	2.0	2.1	1.6	2.0	3.0	1.9	1.1
Low	2.3	2.4	1.8	2.1	3.2	2.1	1.2
<b>Job Stress Due to Concerns About Quality</b>							
<b>Females</b>							
High	2.7	3.7	2.5	2.8	4.4	3.4	1.6
Medium	3.1	4.1	2.5	3.3	4.4	3.3	1.7
Low	3.4	4.8	2.9	3.7	5.0	3.8	2.0
<b>Males</b>							
High	2.5	2.3	1.8	1.9	3.4	2.3	1.2
Medium	2.5	2.3	2.0	2.0	3.7	2.2	1.2
Low	2.8	2.6	2.2	2.2	3.7	2.4	1.4
<b>Total</b>							
High	2.0	2.1	1.5	1.8	2.9	2.0	1.1
Medium	2.1	2.1	1.7	1.9	3.1	2.0	1.1
Low	2.3	2.4	1.8	2.1	3.1	2.1	1.2
<b>Job Stress Due to Role Conflict</b>							
<b>Females</b>							
High	2.7	3.9	2.5	2.8	4.0	3.4	1.6
Medium	3.4	4.7	2.6	3.8	4.8	3.7	1.9
Low	3.4	4.9	2.9	3.7	5.0	3.7	2.0
<b>Males</b>							
High	2.4	2.1	1.7	1.7	3.5	2.0	1.1
Medium	2.8	2.5	2.1	2.2	3.9	2.5	1.4
Low	2.7	2.6	2.1	2.2	3.2	2.3	1.3
<b>Total</b>							
High	1.9	1.9	1.5	1.6	2.9	1.8	1.0
Medium	2.3	2.3	1.8	2.1	3.3	2.1	1.2
Low	2.2	2.4	1.8	2.1	2.8	2.0	1.2

See notes at end of table.

(continued)

**Table 25ASE (continued)**

Measure/Sex	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Job Stress Due to Job Versus Nonjob Conflict</b>							
<b>Females</b>							
High	2.6	3.6	2.1	3.0	4.0	2.8	1.5
Medium	3.4	4.7	2.9	3.8	4.7	3.8	1.9
Low	3.3	4.9	2.9	3.7	4.9	3.8	2.0
<b>Males</b>							
High	2.3	2.0	1.7	1.9	2.9	2.0	1.1
Medium	2.7	2.5	2.1	2.1	4.0	2.5	1.3
Low	2.8	2.6	2.2	2.2	3.7	2.3	1.4
<b>Total</b>							
High	1.9	1.9	1.4	1.9	2.4	1.7	1.0
Medium	2.2	2.3	1.8	2.0	3.3	2.2	1.2
Low	2.3	2.4	1.8	2.1	3.1	2.1	1.2
<b>Overall Job Stress</b>							
<b>Females</b>							
High	2.6	3.8	2.4	2.8	4.3	3.3	1.6
Medium	3.3	4.1	2.7	3.6	4.5	3.6	1.8
Low	3.4	4.8	2.9	3.8	4.9	3.7	2.0
<b>Males</b>							
High	2.5	2.3	1.8	1.9	3.4	2.2	1.2
Medium	2.6	2.4	2.1	2.1	3.9	2.3	1.3
Low	2.8	2.6	2.1	2.2	3.5	2.3	1.4
<b>Total</b>							
High	2.0	2.1	1.5	1.8	2.8	1.9	1.1
Medium	2.1	2.2	1.8	2.0	3.2	2.1	1.1
Low	2.3	2.4	1.8	2.1	3.0	2.0	1.2

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 25BSE Standard Errors for Table 25B: Job Stress Among Active-Duty Personnel**

Measure/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Job Stress Due to Responsibility</b>					
<b>Females</b>					
High	2.9	1.0	1.4	3.4	1.6
Medium	2.5	1.2	1.7	3.3	1.5
Low	2.7	1.3	2.5	3.2	1.5
<b>Males</b>					
High	2.3	1.7	2.5	2.5	1.2
Medium	2.0	1.3	2.2	2.2	1.0
Low	1.9	1.1	2.0	2.4	1.0
<b>Total</b>					
High	2.0	1.5	2.3	2.1	1.1
Medium	1.7	1.1	2.1	1.9	0.9
Low	1.7	1.0	1.9	2.0	0.9
<b>Job Stress Due to Concerns About Quality</b>					
<b>Females</b>					
High	2.9	0.8	2.0	3.2	1.5
Medium	2.5	0.9	1.8	3.3	1.5
Low	2.7	1.0	1.6	3.2	1.5
<b>Males</b>					
High	2.2	1.5	3.9	2.4	1.2
Medium	2.1	1.0	3.5	2.3	1.1
Low	1.9	1.3	2.8	2.4	1.0
<b>Total</b>					
High	2.0	1.3	3.7	2.1	1.0
Medium	1.8	0.8	3.2	1.9	0.9
Low	1.7	1.1	2.7	2.0	0.9
<b>Job Stress Due to Role Conflict</b>					
<b>Females</b>					
High	2.8	0.9	3.0	3.4	1.5
Medium	2.8	1.1	1.8	3.4	1.5
Low	2.7	1.1	2.6	3.0	1.5
<b>Males</b>					
High	2.2	1.3	2.2	2.4	1.1
Medium	2.2	1.3	2.0	2.4	1.1
Low	1.8	1.0	2.5	2.3	1.0
<b>Total</b>					
High	1.9	1.1	2.1	2.0	1.0
Medium	1.9	1.1	1.8	2.1	0.9
Low	1.6	0.9	2.4	1.9	0.9

See notes at end of table.

(continued)

**Table 25BSE (continued)**

Measure/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Job Stress Due to Job Versus Nonjob Conflict</b>					
<b>Females</b>					
High	2.9	1.4	2.9	3.3	1.6
Medium	2.7	1.1	1.4	3.5	1.5
Low	2.3	0.9	2.9	3.0	1.3
<b>Males</b>					
High	2.2	1.4	3.4	2.5	1.2
Medium	2.0	1.2	3.2	2.4	1.1
Low	1.7	1.0	1.9	2.1	0.9
<b>Total</b>					
High	2.0	1.3	3.3	2.1	1.1
Medium	1.8	1.1	3.0	2.1	1.0
Low	1.5	0.8	1.7	1.8	0.8
<b>Overall Job Stress</b>					
<b>Females</b>					
High	2.9	1.1	2.4	3.4	1.6
Medium	2.6	1.0	1.0	3.4	1.5
Low	2.5	1.1	2.7	2.9	1.4
<b>Males</b>					
High	2.2	1.2	4.9	2.5	1.3
Medium	2.0	1.2	4.2	2.4	1.1
Low	1.7	1.1	2.6	2.3	0.9
<b>Total</b>					
High	2.0	1.1	4.7	2.1	1.1
Medium	1.7	1.0	4.0	2.0	1.0
Low	1.5	1.0	2.5	1.9	0.8

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 26ASE Standard Errors for Table 26A: Life Satisfaction Among Reserve/Guard Personnel**

Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Females</b>								
Pleased/delighted <sup>a</sup>	2.6	3.5	2.4	3.2	4.2	3.3	3.3	1.5
Mostly satisfied	3.3	4.8	2.9	3.8	4.9	3.7	2.0	1.7
Mixed	3.0	4.0	2.6	3.3	3.9	2.6	2.6	0.9
Mostly dissatisfied	2.0	1.3	1.0	2.2	2.7	0.2	0.2	0.9
Terrible/unhappy	0.6	1.7	0.1	0.5	0.1	1.2	1.2	0.5
<b>Males</b>								
Pleased/delighted <sup>a</sup>	2.3	2.1	1.8	1.9	3.5	2.2	2.2	1.1
Mostly satisfied	2.8	2.6	2.1	2.2	3.9	2.5	2.5	1.4
Mixed	1.9	2.2	1.8	1.9	2.8	1.9	1.9	1.1
Mostly dissatisfied	1.1	0.5	0.8	0.8	0.7	0.6	0.6	0.3
Terrible/unhappy	0.8	0.9	0.1	**	0.2	**	**	0.4
<b>Total</b>								
Pleased/delighted <sup>a</sup>	1.9	1.9	1.5	1.9	2.9	1.9	1.9	1.0
Mostly satisfied	2.2	2.4	1.8	2.1	3.2	2.2	2.2	1.2
Mixed	1.6	2.0	1.5	1.8	2.4	1.7	1.7	1.0
Mostly dissatisfied	1.0	0.5	0.7	0.8	0.8	0.5	0.5	0.3
Terrible/unhappy	0.6	0.8	0.1	**	0.1	0.2	0.2	0.4

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>The 1998 Total Force Health Assessment used the response option "pleased," while the 1995 POWR Assessment used the response option "delighted."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 26BSE Standard Errors for Table 26B: Life Satisfaction Among Active-Duty Personnel**

Measure/Sex	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Females</b>					
Pleased/delighted <sup>a</sup>	2.4	0.8	2.0	3.0	1.3
Mostly satisfied	2.9	0.9	1.9	3.5	1.6
Mixed	2.5	0.7	1.7	2.9	1.3
Mostly dissatisfied	1.4	0.3	0.7	0.8	0.6
Terrible/unhappy	0.4	0.2	0.8	0.5	0.2
<b>Males</b>					
Pleased/delighted <sup>a</sup>	1.9	1.1	2.2	2.1	1.0
Mostly satisfied	2.2	1.3	1.5	2.5	1.1
Mixed	2.0	1.2	2.1	2.1	1.0
Mostly dissatisfied	0.9	0.5	1.4	1.2	0.5
Terrible/unhappy	0.6	0.1	0.6	0.1	0.2
<b>Total</b>					
Pleased/delighted <sup>a</sup>	1.7	0.9	2.1	1.8	0.8
Mostly satisfied	1.9	1.2	1.5	2.1	0.9
Mixed	1.8	1.1	2.0	1.8	0.9
Mostly dissatisfied	0.8	0.4	1.3	1.0	0.4
Terrible/unhappy	0.5	0.1	0.5	0.1	0.2

Note: Table entries are percentages.

<sup>a</sup>The 1998 Total Force Health Assessment used the response option "pleased," while the 1995 POWR Assessment used the response option "delighted."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 27ASE Standard Errors for Table 27A: Negative and Positive Life Events in the Past Year Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Negative Events</b>							
<b>Females</b>							
Many/several <sup>a</sup>	2.8	3.7	2.1	2.3	3.1	2.5	1.5
Some	3.0	3.8	2.5	3.0	4.5	3.1	1.7
Few	3.2	4.7	2.9	3.7	4.8	3.7	1.9
None	2.3	3.9	2.3	3.0	2.4	2.9	1.5
<b>Males</b>							
Many/several <sup>a</sup>	1.5	1.5	1.4	1.3	1.9	1.1	0.8
Some	2.2	2.1	1.7	1.8	3.2	1.9	1.1
Few	2.7	2.5	2.1	2.2	3.8	2.4	1.3
None	2.6	2.2	2.0	1.9	3.7	2.3	1.2
<b>Total</b>							
Many/several <sup>a</sup>	1.3	1.4	1.2	1.2	1.6	1.0	0.7
Some	1.8	2.0	1.4	1.7	2.7	1.7	1.0
Few	2.2	2.3	1.8	2.1	3.2	2.1	1.2
None	2.1	2.0	1.7	1.8	3.0	1.9	1.1
<b>Positive Events</b>							
<b>Females</b>							
Often	1.7	3.1	1.5	2.1	2.8	1.9	1.1
Sometimes	3.0	4.6	2.7	3.7	4.9	3.6	1.9
Rarely/seldom <sup>b</sup> (but at least once)	3.3	4.4	2.8	3.5	4.7	3.6	1.9
Never	2.0	3.5	2.5	2.1	2.5	3.0	1.3
<b>Males</b>							
Often	1.2	1.3	0.9	1.2	1.4	1.0	0.7
Sometimes	2.8	2.5	2.1	2.1	3.9	2.4	1.3
Rarely/seldom <sup>b</sup> (but at least once)	2.7	2.5	2.1	2.1	3.9	2.4	1.3
Never	1.9	1.8	1.7	1.4	2.3	1.9	1.0
<b>Total</b>							
Often	1.0	1.2	0.8	1.1	1.3	0.9	0.6
Sometimes	2.2	2.3	1.8	2.0	3.2	2.1	1.2
Rarely/seldom <sup>b</sup> (but at least once)	2.2	2.3	1.8	2.1	3.2	2.1	1.2
Never	1.5	1.7	1.4	1.3	1.9	1.7	0.8

Note: Table entries are percentages.

<sup>a</sup>The 1998 Total Force Health Assessment used the response option "many," while the 1995 POWR Assessment used the response option "several."<sup>b</sup>The 1998 Total Force Health Assessment used the response option "rarely," while the 1995 POWR Assessment used the response option "seldom."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 27BSE Standard Errors for Table 27B: Negative and Positive Life Events in the Past Year Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Negative Events</b>					
<b>Females</b>					
Many/several <sup>a</sup>	1.7	0.5	1.7	2.4	1.0
Some	2.0	0.7	1.1	3.0	1.3
Few	2.9	0.8	2.0	3.5	1.6
None	2.5	0.8	1.4	2.8	1.4
<b>Males</b>					
Many/several <sup>a</sup>	1.6	0.8	1.6	1.4	0.7
Some	1.6	1.0	2.4	2.0	0.9
Few	2.2	1.0	2.6	2.5	1.1
None	1.8	1.3	3.0	2.2	1.0
<b>Total</b>					
Many/several <sup>a</sup>	1.4	0.7	1.5	1.2	0.6
Some	1.4	0.9	2.3	1.7	0.8
Few	1.9	0.8	2.4	2.1	0.9
None	1.6	1.1	2.8	1.9	0.9
<b>Positive Events</b>					
<b>Females</b>					
Often	1.8	0.5	0.7	1.7	0.9
Sometimes	2.7	1.1	1.9	3.3	1.5
Rarely/seldom <sup>b</sup> (but at least once)	2.7	0.8	2.5	3.5	1.6
Never	2.3	0.9	1.3	2.1	1.1
<b>Males</b>					
Often	1.4	0.8	1.8	0.9	0.6
Sometimes	2.0	1.2	2.2	2.5	1.1
Rarely/seldom <sup>b</sup> (but at least once)	2.2	1.1	2.2	2.4	1.1
Never	1.4	1.3	1.8	1.8	0.8
<b>Total</b>					
Often	1.2	0.7	1.7	0.8	0.5
Sometimes	1.7	1.1	2.1	2.1	1.0
Rarely/seldom <sup>b</sup> (but at least once)	1.9	0.9	2.1	2.0	0.9
Never	1.2	1.1	1.7	1.6	0.7

Note: Table entries are percentages.

<sup>a</sup>The 1998 Total Force Health Assessment used the response option "many," while the 1995 POWR Assessment used the response option "several."

<sup>b</sup>The 1998 Total Force Health Assessment used the response option "frequently," while the 1995 POWR Assessment used the response option "seldom."

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 28ASE Standard Errors for Table 28A: Prevalence of Abuse and Treatment for Abuse Among Reserve/Guard Personnel**

Measure/Sex/Prevalence	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	National Guard	Air Guard	Total Reserve/Guard Personnel
<b>Abused Prior to Entering Military<sup>a</sup></b>								
<b>Females</b>								
Emotional abuse	2.8	4.2	2.6	2.3	3.5	2.8	1.6	
Sexual abuse	2.9	4.5	2.5	3.1	4.5	3.2	1.7	
Physical abuse	3.2	4.6	2.9	3.3	4.2	3.3	1.9	
<b>Males</b>								
Emotional abuse	1.3	1.0	1.1	1.1	1.9	0.9	0.6	
Sexual abuse	0.7	0.8	0.8	0.6	1.4	0.9	0.4	
Physical abuse	1.7	1.3	1.4	1.5	2.8	1.5	0.8	
<b>Total</b>								
Emotional abuse	1.2	1.0	1.0	1.1	1.6	0.9	0.6	
Sexual abuse	0.9	0.8	0.8	0.6	1.5	0.9	0.5	
Physical abuse	1.5	1.3	1.2	1.5	2.4	1.4	0.7	
<b>Abused Since Entering Military<sup>a</sup></b>								
<b>Females</b>								
Emotional abuse	2.3	2.9	2.1	2.0	3.1	2.5	1.3	
Sexual abuse	2.4	2.7	1.7	2.5	3.5	2.8	1.3	
Physical abuse	3.1	4.3	2.7	3.3	4.2	3.6	1.8	
<b>Males</b>								
Emotional abuse	1.1	0.9	0.7	0.7	1.0	0.6	0.5	
Sexual abuse	**	0.3	0.1	0.1	**	0.3	0.1	
Physical abuse	1.9	1.6	1.3	1.3	2.5	1.5	0.9	
<b>Total</b>								
Emotional abuse	1.0	0.8	0.7	0.7	1.0	0.6	0.4	
Sexual abuse	0.6	0.4	0.3	0.2	0.8	0.5	0.2	
Physical abuse	1.6	1.5	1.2	1.2	2.2	1.4	0.8	
<b>Ever Received Treatment/ Counseling for Abuse<sup>b</sup></b>								
<b>Females</b>								
Yes	4.4	6.4	4.0	4.3	6.2	5.0	2.6	
No	4.4	6.4	4.0	4.3	6.2	5.0	2.6	
<b>Males</b>								
Yes	5.0	4.2	4.1	3.5	6.9	3.8	2.3	
No	5.0	4.2	4.1	3.5	6.9	3.8	2.3	
<b>Total</b>								
Yes	3.4	3.6	3.0	3.1	4.9	3.1	1.8	
No	3.4	3.6	3.0	3.1	4.9	3.1	1.8	

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Individual respondents may have reported more than one type of abuse.<sup>b</sup>This item only includes personnel who reported emotional, sexual, or physical abuse at any time.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 28BSE Standard Errors for Table 28B: Prevalence of Abuse and Treatment for Abuse Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Abused Prior to Entering Military<sup>a</sup></b>					
<b>Females</b>					
Emotional abuse	2.2	0.7	1.8	2.8	1.3
Sexual abuse	2.5	0.9	1.7	3.4	1.5
Physical abuse	2.7	1.1	1.6	3.0	1.5
<b>Males</b>					
Emotional abuse	1.4	0.9	1.1	0.6	0.6
Sexual abuse	1.0	0.3	1.2	1.2	0.5
Physical abuse	1.7	0.8	0.9	1.7	0.8
<b>Total</b>					
Emotional abuse	1.2	0.8	1.0	0.7	0.5
Sexual abuse	1.0	0.3	1.1	1.1	0.5
Physical abuse	1.5	0.7	0.9	1.5	0.7
<b>Abused Since Entering Military<sup>a</sup></b>					
<b>Females</b>					
Emotional abuse	1.5	0.5	1.1	1.8	0.8
Sexual abuse	1.6	0.5	1.2	2.3	1.0
Physical abuse	2.6	0.9	1.8	3.0	1.4
<b>Males</b>					
Emotional abuse	1.1	0.4	0.7	0.6	0.4
Sexual abuse	0.2	0.1	0.6	0.1	0.1
Physical abuse	1.7	1.1	1.0	1.8	0.8
<b>Total</b>					
Emotional abuse	1.0	0.4	0.7	0.6	0.4
Sexual abuse	0.3	0.1	0.6	0.4	0.2
Physical abuse	1.5	0.9	0.9	1.6	0.7
<b>Ever Received Treatment/Counseling for Abuse<sup>b</sup></b>					
<b>Females</b>					
Yes	3.8	1.4	2.9	4.6	2.2
No	3.8	1.4	2.9	4.6	2.2
<b>Males</b>					
Yes	4.2	1.8	2.9	4.1	2.0
No	4.2	1.8	2.9	4.1	2.0
<b>Total</b>					
Yes	3.2	1.5	2.5	3.2	1.6
No	3.2	1.5	2.5	3.2	1.6

Note: Table entries are percentages.

<sup>a</sup>Individual respondents may have reported more than one type of abuse.<sup>b</sup>This item only includes personnel who reported emotional, sexual, or physical abuse at any time.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 29ASE Standard Errors for Table 29A: Selected Mental Health Measures Among Reserve/Guard Personnel**

Measure/Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Depression<sup>a</sup></b>							
<b>Females</b>							
Depressed	3.3	4.7	2.3	3.7	3.9	3.5	1.9
Not depressed	3.3	4.7	2.3	3.7	3.9	3.5	1.9
<b>Males</b>							
Depressed	2.3	2.3	1.6	2.0	3.5	1.9	1.2
Not depressed	2.3	2.3	1.6	2.0	3.5	1.9	1.2
<b>Total</b>							
Depressed	1.9	2.1	1.4	1.9	2.9	1.7	1.0
Not depressed	1.9	2.1	1.4	1.9	2.9	1.7	1.0
<b>Personnel Who Seriously Considered Suicide</b>							
<b>Females</b>							
Within past 2 months	1.6	1.7	0.8	2.0	1.4	0.8	0.8
3 to 12 months ago	1.1	0.1	0.1	0.9	1.7	1.0	0.5
13 to 24 months ago	1.4	1.5	0.5	0.6	0.1	0.9	0.6
<b>Males</b>							
Within past 2 months	0.3	0.8	0.2	0.3	0.1	0.5	0.4
3 to 12 months ago	0.9	0.7	0.5	0.8	0.1	0.5	0.4
13 to 24 months ago	0.2	1.2	0.4	0.9	1.0	0.8	0.6
<b>Total</b>							
Within past 2 months	0.5	0.8	0.2	0.3	0.3	0.4	0.3
3 to 12 months ago	0.8	0.6	0.4	0.7	0.4	0.4	0.3
13 to 24 months ago	0.4	1.1	0.4	0.9	0.8	0.7	0.5

Note: Table entries are percentages.

<sup>a</sup>Personnel are categorized as "depressed" or "not depressed" based on their scores on the CES-D (Center for Epidemiologic Studies—Depression), which is only an indicator of depression, not a clinical diagnosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 29BSE Standard Errors for Table 29B: Selected Mental Health Measures Among Active-Duty Personnel**

Measure/Sex/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Depression<sup>a</sup></b>					
<b>Females</b>					
Depressed	2.9	1.5	2.5	3.3	1.6
Not depressed	2.9	1.5	2.5	3.3	1.6
<b>Males</b>					
Depressed	2.2	1.1	3.1	2.1	1.1
Not depressed	2.2	1.1	3.1	2.1	1.1
<b>Total</b>					
Depressed	1.9	0.9	2.9	1.8	1.0
Not depressed	1.9	0.9	2.9	1.8	1.0
<b>Personnel Who Seriously Considered Suicide</b>					
<b>Females</b>					
Within past 2 months	0.9	0.3	0.3	0.9	0.4
3 to 12 months ago	1.3	0.3	0.6	0.4	0.5
13 to 24 months ago	2.1	0.4	1.0	0.6	0.8
<b>Males</b>					
Within past 2 months	1.0	0.1	0.7	0.6	0.4
3 to 12 months ago	1.1	0.3	1.0	0.8	0.4
13 to 24 months ago	0.9	0.4	1.2	0.6	0.4
<b>Total</b>					
Within past 2 months	0.8	0.1	0.6	0.5	0.3
3 to 12 months ago	0.9	0.3	0.9	0.6	0.4
13 to 24 months ago	0.8	0.4	1.1	0.5	0.4

Note: Table entries are percentages.

<sup>a</sup>Personnel are categorized as "depressed" or "not depressed" based on their scores on the CES-D (Center for Epidemiologic Studies—Depression), which is only an indicator of depression, not a clinical diagnosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 30ASE Standard Errors for Table 30A: Social Support Among Reserve/Guard Personnel**

Sex/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Females</b>							
High	3.1	4.1	3.0	3.2	4.6	3.8	1.8
Medium	3.5	4.7	3.0	4.0	5.3	3.8	2.0
Low	3.6	5.2	3.0	3.9	4.5	4.0	2.1
<b>Males</b>							
High	2.9	2.8	2.4	1.8	4.3	2.6	1.5
Medium	2.9	2.6	2.3	2.2	3.6	2.3	1.4
Low	2.9	2.5	2.2	2.3	3.8	2.3	1.4
<b>Total</b>							
High	2.3	2.5	2.0	1.7	3.5	2.3	1.3
Medium	2.4	2.4	1.9	2.1	3.1	2.0	1.2
Low	2.4	2.3	1.9	2.2	3.1	2.0	1.2

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 30BSE Standard Errors for Table 30B: Social Support Among Active-Duty Personnel**

Sex/Level	Army	Navy	Marine Corps	Air Force	Total	Total
					Active-Duty Personnel	Active-Duty Personnel
<b>Females</b>						
High	2.5	1.1	1.6	2.6	1.2	1.2
Medium	3.4	1.1	1.8	4.1	1.8	1.8
Low	3.5	1.2	2.1	4.1	1.8	1.8
<b>Males</b>						
High	2.1	1.4	3.2	2.8	1.3	1.3
Medium	2.5	1.7	3.2	2.7	1.2	1.2
Low	2.7	1.2	3.5	2.8	1.4	1.4
<b>Total</b>						
High	1.9	1.2	3.0	2.3	1.1	1.1
Medium	2.2	1.5	3.0	2.3	1.1	1.1
Low	2.4	1.1	3.3	2.4	1.2	1.2

Note: Table entries are percentages.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 31ASE Standard Errors for Table 31A: Gynecological History Among Reserve/Guard Personnel**

History	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Air Force Reserve	Total Reserve/Guard Personnel
<b>Age of First Menstruation</b>								
9 or younger	1.0	1.0	0.8	1.2	0.4	1.0	0.5	
10 to 12 years old	3.3	4.8	2.9	3.7	4.8	3.7	2.0	
13 to 15 years old	3.3	4.8	2.8	3.6	4.8	3.7	1.9	
16 years or older	2.1	1.3	1.8	2.2	1.7	1.6	0.9	
Don't know	0.8	0.8	1.0	0.5	0.2	0.6	0.4	
<b>Age at First Live Birth</b>								
12 or younger	0.1	0.1	1.1	**	**	0.2	0.2	
13 to 16 years old	1.2	2.5	2.3	2.8	2.3	1.5	0.9	
17 to 20 years old	3.9	6.5	3.3	4.3	5.9	4.2	2.4	
21 to 30 years old	4.2	6.4	3.5	5.3	6.1	4.6	2.4	
31 to 40 years old	2.3	2.6	1.4	3.9	4.1	2.7	1.2	
Over 40 years old	**	**	**	**	**	**	**	
<b>Total Number of Years Taking Birth Control Pills</b>								
0 years	2.9	4.6	2.1	3.7	3.4	2.9	1.8	
1 to 4 years	3.3	4.7	2.9	3.5	4.9	3.5	1.9	
5 to 8 years	2.4	3.1	2.1	2.8	4.0	3.4	1.4	
9 or more years	2.4	3.4	2.6	1.8	4.0	3.3	1.5	
<b>Taken Replacement Estrogens in the Past 30 Days</b>								
Yes	1.3	1.9	1.8	0.6	2.7	1.9	0.8	
No	1.3	1.9	1.8	0.6	2.7	1.9	0.8	

Note: Table entries are percentages.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 31BSE Standard Errors for Table 31B: Gynecological History Among Active-Duty Personnel**

History	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Age of First Menstruation</b>					
9 or younger	1.0	0.4	0.5	0.2	0.4
10 to 12 years old	2.7	0.9	2.9	3.4	1.6
13 to 15 years old	2.9	0.9	3.1	3.5	1.6
16 years or older	1.5	0.5	0.6	1.7	0.8
Don't know	0.2	0.2	0.2	0.7	0.3
<b>Age at First Live Birth</b>					
12 years old or younger	**	**	**	**	**
13 to 16 years old	1.7	0.4	0.6	0.5	0.7
17 to 20 years old	4.0	1.4	4.8	4.0	2.0
21 to 30 years old	4.1	1.5	4.4	4.3	2.1
31 to 40 years old	1.6	1.0	1.4	2.1	0.9
Over 40 years old	0.1	0.1	0.1	**	0.1
<b>Total Number of Years Taking Birth Control Pills</b>					
0 years	2.5	0.8	1.4	1.4	3.0
1 to 4 years	2.8	1.2	2.1	3.2	1.5
5 to 8 years	2.0	0.8	1.4	3.0	1.3
9 or more years	1.9	0.9	1.0	2.7	1.2
<b>Taken Replacement Estrogens in the Past 30 Days</b>					
Yes	0.9	0.3	0.5	1.2	0.5
No	0.9	0.3	0.5	1.2	0.5

Note: Table entries are percentages.

\*\*Low precision.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 32ASE Standard Errors for Table 32A: Pregnancy Status and Childbirth History Among Reserve/Guard Females**

Status or History	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Been Pregnant Since Joining the Service</b>							
Yes	3.0	5.5	3.5	2.8	4.8	3.4	2.0
No	3.0	5.5	3.5	2.8	4.8	3.4	2.0
<b>Currently Pregnant</b>							
Yes	1.0	0.6	1.4	2.7	1.0	1.4	0.5
No	1.0	0.6	1.4	2.7	1.1	1.4	0.5
Not sure	0.3	**	0.1	**	0.4	0.2	0.1
<b>Number of Live Births</b>							
0 births	3.2	3.9	1.8	4.0	3.8	1.4	1.6
1 birth	4.0	5.7	3.1	4.9	5.8	4.6	2.3
2 births	4.0	5.5	3.5	4.1	5.1	4.5	2.2
3 births	2.4	4.8	2.2	3.3	4.9	4.0	1.7
4 births	0.9	3.7	1.5	0.7	2.8	2.3	1.2
5 or more births	0.7	2.3	1.0	1.9	0.1	1.0	0.7
<b>Ever Had a Premature Baby or a Baby Weighing Less Than 5 Pounds<sup>a</sup></b>							
Yes	2.4	4.6	2.5	2.9	3.2	2.4	1.6
No	2.4	4.6	2.5	2.9	3.2	2.4	1.6

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Among females who have been pregnant.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 32BSE Standard Errors for Table 32B: Pregnancy Status and Childbirth History Among Active-Duty Females**

Status/History	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Been Pregnant Since Joining the Service</b>					
Yes	2.6	0.8	1.6	3.4	1.5
No	2.6	0.8	1.6	3.4	1.5
<b>Currently Pregnant</b>					
Yes	2.9	0.7	2.5	2.8	1.5
No	3.0	0.9	2.6	2.8	1.5
Not sure	0.6	0.4	1.0	**	0.3
<b>Number of Live Births</b>					
0 births	2.7	0.5	2.0	4.2	1.8
1 births	3.7	2.1	3.3	4.5	2.2
2 births	3.7	1.6	3.0	3.8	2.0
3 births	1.6	0.8	1.6	2.4	1.0
4 births	1.0	0.3	0.9	0.8	0.5
5 or more births	0.1	0.2	0.2	0.4	0.2
<b>Given Enough Time Off Military Job to See an OB/GYN When Pregnant<sup>a</sup></b>					
Yes	3.0	1.2	2.4	4.1	1.9
No	3.0	1.2	2.4	4.1	1.9
<b>Ever Had a Premature Baby or a Baby Weighing Less than 5 Pounds<sup>a</sup></b>					
Yes	2.7	1.1	1.9	2.7	1.4
No	2.7	1.1	1.9	2.7	1.4

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Among females who have been pregnant.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 33ASE Standard Errors for Table 33A: Menstrual Conditions Among Reserve/Guard Females in the Past 3 Months**

Condition	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Premenstrual Symptoms or Pain (PMS)</b>	3.2	4.4	2.9	3.5	4.6	3.8	1.9
<b>Cramps or Pain During Menstruation That Required Medication or Time of Work</b>	3.4	4.6	2.8	3.1	4.8	3.5	1.9
<b>Heavy Periods</b>	3.4	5.0	3.0	3.7	5.2	3.9	2.0
<b>Light Periods</b>	3.4	5.1	2.7	3.7	4.6	3.7	2.0
<b>One Missed Period</b>	3.0	3.6	2.1	2.7	2.7	2.4	1.6
<b>No Menstrual Period for 2 Months</b>	2.6	3.9	1.9	2.7	2.5	2.8	1.5
<b>Menstrual Period That Lasts More than 1 Week</b>	2.8	3.5	1.7	2.7	3.9	3.0	1.5
<b>Too Many Periods (Short Time Between Periods)</b>	2.3	2.8	1.4	2.3	2.1	2.2	1.2
<b>Bleeding Between Periods</b>	2.5	3.6	1.4	2.3	2.4	2.5	1.4
<b>Problems with Uterus<sup>a</sup></b>	0.8	1.6	1.3	0.9	2.1	1.2	0.6

Note: Table entries are percentages of all females except those who have had hysterectomies.

<sup>a</sup>Other than endometriosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 33BSE Standard Errors for Table 33B: Menstrual Conditions Among Active-Duty Females in the Past 3 Months**

Condition	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Premenstrual Symptoms or Pain (PMS)</b>	2.8	0.8	2.4	3.1	1.5
<b>Cramps or Pain During Menstruation That Required Medication or Time Off Work</b>	2.6	1.0	1.7	2.9	1.4
<b>Heavy Periods</b>	3.0	0.8	2.3	3.7	1.7
<b>Light Periods</b>	2.9	0.8	1.4	3.8	1.9
<b>One Missed Period</b>	2.3	1.0	1.4	2.9	1.3
<b>No Menstrual Period for 2 Months</b>	2.6	0.8	2.1	2.7	1.3
<b>Menstrual Period That Lasts More Than 1 Week</b>	2.7	0.7	2.0	3.0	1.4
<b>Too Many Periods (Short Time Between Periods)</b>	2.3	0.7	1.6	2.0	1.1
<b>Bleeding Between Periods</b>	2.6	0.8	2.6	2.3	1.2
<b>Problems with Uterus<sup>a</sup></b>	1.6	0.3	1.1	0.4	0.6

Note: Table entries are percentages of all females except those who have had hysterectomies.

<sup>a</sup>Other than endometriosis.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 34ASE Standard Errors for Table 34A: Gynecological Conditions Among Reserve/Guard Females in the Past 3 Months**

Condition	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
Abdominal Pain from Known Cysts	1.6	2.1	1.2	1.8	2.4	1.6	0.9
Abdominal Pain from Unknown Causes	3.1	4.4	2.2	2.8	3.4	3.2	1.7
Yeast or Vaginal Infection	2.7	4.3	2.4	3.3	4.3	2.7	1.7
Vaginal Rash, Discharge, or Other Disorder <sup>a</sup>	2.2	3.4	1.9	2.2	2.4	2.0	1.3

Note: Table entries are percentages.

<sup>a</sup>Excludes yeast infection and sexually transmitted disease.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 34BSE Standard Errors for Table 34B: Gynecological Conditions Among Active-Duty Females in the Past 3 Months**

Condition	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
Abdominal Pain from Known Cysts	1.2	0.5	1.6	1.2	0.6
Abdominal Pain from Unknown Causes	2.8	0.8	3.0	2.9	1.5
Yeast or Vaginal Infection	2.7	1.0	2.9	2.9	1.4
Vaginal Rash, Discharge, or Other Disorder <sup>a</sup>	2.1	0.6	1.3	1.5	0.9

Note: Table entries are percentages.

<sup>a</sup>Excludes yeast infection and sexually transmitted disease.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 35ASE Standard Errors for Table 35A: Cervical Health and Cancer Screening Among Reserve/Guard Females**

Screening	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Personnel
<b>Time Since Last Pap Smear<sup>a</sup></b>							
Less than 1 year ago	3.3	4.6	2.7	3.4	4.6	3.1	1.9
More than 1 year ago, but within the past 3 years	3.0	4.0	2.6	3.2	4.4	3.0	1.7
3 years or more	1.4	1.4	1.1	1.3	1.6	0.8	0.7
Never	1.5	2.8	0.1	1.1	**	0.8	1.0
<b>Ever Had an Abnormal Pap Smear<sup>b</sup></b>							
Yes	1.0	1.5	0.8	1.0	0.2	0.1	0.6
No	3.1	4.6	2.9	3.5	4.0	3.7	1.8
Don't know	3.1	4.5	2.9	3.5	4.0	3.7	1.8

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Percentages are based on all females except those who have had hysterectomies.<sup>b</sup>Percentages are based on all females.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 35BSE Standard Errors for Table 35B: Cervical Health and Cancer Screening Among Active-Duty Females**

Screening	Army	Navy	Marine Corps	Air Force	Total Reserve/Guard Personnel
<b>Time Since Last Pap Smear<sup>a</sup></b>					
Less than 1 year ago	2.4	1.1	1.9	2.8	1.3
More than 1 year ago, but within the past 3 years	2.0	1.0	1.6	2.5	1.2
3 years or more	1.4	0.3	0.4	1.3	0.7
Never	0.8	**	0.4	0.6	0.3
<b>Ever Had an Abnormal Pap Smear<sup>b</sup></b>					
Yes	0.3	0.2	0.4	0.7	0.3
No	2.8	0.9	2.7	3.3	1.5
Don't know	2.8	0.9	2.4	3.2	1.5

Note: Table entries are percentages.

\*\*Low precision.

<sup>a</sup>Percentages are based on all females except those who have had hysterectomies.

<sup>b</sup>Percentages are based on all females.

Sources: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 36ASE Standard Errors for Table 36A: Breast Health, Breast Cancer Screening, and Other Early Detection Behavior Among Reserve/Guard Females**

Measure/Level	Army Reserve	Army National Guard	Naval Reserve	Marine Corps Reserve	Air Force Reserve	Air National Guard	Total Reserve/Guard Females
<b>Time Since Last Breast Exam by a Medical Provider</b>							
Less than 1 year ago	3.1	4.5	2.7	3.4	4.1	3.3	1.8
More than 1 year ago, but within the past 3 years	2.7	4.1	2.4	3.0	4.0	3.1	1.6
3 years or more	1.7	1.8	1.5	1.1	1.4	1.4	0.8
Never	1.6	2.0	0.2	2.0	0.1	0.1	0.8
<b>Ever Received Training from a Medical Provider on How to Perform a Breast Self-Exam</b>							
Yes	1.6	3.7	1.5	2.7	2.5	1.8	1.3
No	1.6	3.7	1.5	2.7	2.5	1.8	1.3
<b>Frequency of Breast Self-Exam</b>							
Monthly	3.3	4.3	2.9	3.4	4.5	3.8	1.9
Once every few months	2.9	4.8	2.6	3.5	4.8	3.7	1.9
Rarely or never	3.1	4.4	2.5	3.5	3.9	3.2	1.8
<b>Discharge from Breast in Past 3 Months</b>							
Yes	1.6	2.2	0.9	0.9	1.7	1.1	0.9
No	1.6	2.2	0.9	0.9	1.7	1.1	0.9
<b>Breast Lump in Past 3 Months</b>							
Yes	1.8	2.3	0.9	1.9	3.2	1.5	1.0
No	1.8	2.3	0.9	1.9	3.2	1.5	1.0
<b>Ever Had an Operation to Remove a Breast Lump That Was Found to Be Non-Cancerous</b>							
Yes	1.2	2.3	1.5	1.0	2.0	1.6	0.9
No	1.2	2.3	1.5	1.0	2.0	1.6	0.9

Note: Table entries are percentages.

Source: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**Table 36BSE Standard Errors for Table 36B: Breast Health, Breast Cancer Screening, and Other Early Detection Behavior Among Active-Duty Females**

Measure/Level	Army	Navy	Marine Corps	Air Force	Total Active-Duty Personnel
<b>Time Since Last Breast Exam by a Medical Provider</b>					
Less than 1 year ago	2.6	0.9	2.4	2.7	1.3
More than 1 year ago, but within the past 3 years	2.3	0.8	2.2	2.4	1.2
3 years or more	1.1	0.2	0.9	1.5	0.7
Never	1.2	0.3	0.6	0.5	0.5
<b>Ever Received Training from a Medical Provider on How to Perform a Breast Self-Exam</b>					
Yes	2.0	0.7	1.4	2.2	1.0
No	2.0	0.7	1.4	2.2	1.0
<b>Frequency of Breast Self-Exam</b>					
Monthly	2.8	1.3	1.6	3.4	1.6
Once every few months	2.6	1.1	2.0	3.3	1.5
Rarely or never	2.6	0.8	2.1	3.1	1.4
<b>Discharge from Breast in Past 3 Months</b>					
Yes	1.6	0.4	1.3	1.7	0.8
No	1.6	0.4	1.3	1.7	0.8
<b>Breast Lump in Past 3 Months</b>					
Yes	1.5	0.5	0.6	1.3	0.7
No	1.5	0.5	0.6	1.3	0.7
<b>Ever Had an Operation to Remove a Breast Lump That Was Found to Be Non-Cancerous</b>					
Yes	1.0	0.4	0.7	1.3	0.6
No	1.0	0.4	0.7	1.3	0.6

Note: Table entries are percentages.

Source: 1998 Total Force Health Assessment and 1995 POWR Assessment: Perceptions of Wellness and Readiness.

**APPENDIX E**

**ADVISORY PANEL MEMBERS FOR THE TOTAL FORCE STUDY**

## APPENDIX E

### ADVISORY PANEL MEMBERS FOR THE TOTAL FORCE STUDY

- U.S. Army Center for Health Promotion and Preventive Medicine: LTC Sandra Goins, LTC Joan Eitzen, LTC Mike Chisick, Major Kate Wiltsie, Ms. Beth Ann Cameron.
- U.S. Army Medical Research and Materiel Command: Dr. Patricia Modrow.
- U.S. Army National Guard Readiness Center: CPT Lorena Darnell, COL Stephen Lloyd.
- Office of the Chief of the Army Reserve: LTC Jane Meyer, LTC Mary Adams.
- Office of the Secretary of Defense, Reserve Affairs: LTC Patricia Hamill, CAPT Mary Jo Majors, CAPT Sheila Brackett.
- U.S. Naval Reserve Health Care Programs Branch: CDR Tom Buffington, CDR June Rogers.
- U.S. Navy Bureau of Medicine and Surgery: CDR Susan Herrold.
- Headquarters, U.S. Marine Corps: CAPT Gary Reams, CAPT Jerry Rose.
- Headquarters, Air Force Medical Operations Agency, Office of the Surgeon General: Lt Col Meade Pimsler.

- Air Force Office for Prevention and Health Services Assessment: Major Karen Foster, Lt Col John Meyer, Lt Col Jim Fraser.
- Office of the Chief, Air Force Reserve: Col. Mary Martin, Col. Patricia Chamings.
- Air National Guard Representative, Department of Veterans Affairs: BG Irene Trowell-Harris.
- Office of the Assistant Secretary of Defense, Health Affairs: Col. Margaret Knapp.

## APPENDIX F

### 1998 TOTAL FORCE HEALTH ASSESSMENT

# 1998 Total Force Health Assessment

Survey Approval Authority: U.S. Army Research Institute for the Behavioral and Social Sciences  
Survey Control Number: TAPC-ARI-AO-98-3  
RCS: MILPC-3

## Introduction

**What is this study about?** This study is mainly about your health with questions on illness, stress, smoking, and sexual behavior, for example.

**How will your answers be used?** Your answers will be combined with those from other military personnel to prepare a final report. The information in the report will be used to improve the quality of military life.

**Who is overseeing the study?** Research Triangle Institute, a not-for-profit research company, is under contract to the Department of Defense to oversee this study.

**How were you selected?** You were randomly selected to participate in this important survey.

**Must you participate?** Your participation in this survey is voluntary, but the survey's success depends on your willingness to take part. You represent thousands of other personnel, and we can't substitute anyone for you. Therefore, we encourage you to answer all of the questions honestly, but you are not required to answer any question to which you object.

**Who will see your answers?** Only civilian researchers will see your answers. No military personnel will ever see your individual answers. This questionnaire is confidential. DO NOT WRITE YOUR NAME OR SOCIAL SECURITY NUMBER ANYWHERE ON THIS BOOKLET.

## Instructions for Completing the Questionnaire

■ In responding to this questionnaire, you may find questions that you feel are repetitious. Please realize that it is important for us to ask questions about different aspects of the same issue to better understand it. In addition, we ask you NOT to skip questions—even if you don't think they apply to you—unless you are instructed to do so or you object to answering them. An important part of questionnaire design is making sure the questions follow the same patterns used in other questionnaires so we can compare information. Our comparisons may not be valid if you skip questions when you are not asked to skip them.

■ Most questions provide a set of answers. Read all of the printed answers before marking your choice. If none of the printed answers exactly applies to you, mark the circle for the one answer that best fits your situation.

■ Use only a soft-lead pencil (such as a #2) to complete this questionnaire.

■ Make heavy black marks that fill the circle of your answer.

<b>CORRECT MARK</b>	<b>INCORRECT MARKS</b>
<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<input checked="" type="checkbox"/> <input checked="" type="radio"/> <input checked="" type="radio"/> <input type="radio"/>

■ Completely erase any answers you change.

■ Do not make any stray marks anywhere in this booklet.

■ For many questions, you should mark only one circle for your answer in the column below the question, as shown:

**EXAMPLE: In general, would you say your health is:**

- Excellent
- Very good
- Good
- Fair
- Poor

■ Sometimes you will be asked to "Darken one circle on each line." For these questions, record an answer to each part of the question, as shown:

**EXAMPLE:**

Has a health care provider ever told you that you had any of the following?

- a. Asthma
- b. Chronic bronchitis
- c. Chronic rhinitis or hay fever

If yes, what was the result?

		Yes, But No Never	No Longer a Problem	Yes, Still a Problem
		<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

■ If you are asked to give numbers for your answer, please complete the grid as shown below:

**EXAMPLE:**

Think about your illnesses you may have had in the past 12 months. How many days were you unable to perform your military job because of an illness in the past 12 months?

• First, enter the number of days in the boxes. Use all three boxes. Write ONE number in each box.

• Always write the last number in the right-hand box. Fill in any unused boxes with zeroes. For example, an answer of "5 days" would be written as "005."

• Then, darken the matching circle below each box.

<b>DAYS</b>		
0	0	5
<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
1	1	1
2	2	2
3	3	3
4	4	4
5	5	<input checked="" type="radio"/>
6	6	<input type="radio"/>
7	7	<input type="radio"/>
8	8	<input type="radio"/>
9	9	<input type="radio"/>

Now, please turn the page and begin with question 1. →

## DEMOGRAPHIC INFORMATION

**1. In which component of the Military do you currently serve?\***

- Active Army (USA)
- Army National Guard (ARNG)
- Army Reserve (USAR)
- Naval Reserve (USNR)
- Active Air Force (USAF)
- Air National Guard (ANG)
- Air Force Reserve (USAFR)
- Marine Corps Reserve (USMCR)

**2. In all, how many years have you served on active duty?** Do not include Reserve/Guard years.

(Choose the one answer that best applies)

- Never served on active duty
- Less than 6 months
- At least 6 months, but less than 1 year
- At least 1 year, but less than 2 years
- At least 2 years, but less than 3 years
- At least 3 years, but less than 4 years
- At least 4 years, but less than 5 years
- At least 5 years, but less than 10 years
- At least 10 years, but less than 20 years
- 20 or more years

**3. In all, how many years have you served in the Guard or Reserve?** Do not include active-duty years.

(Choose the one answer that best applies)

- Never served in the Guard or Reserve
- Less than 6 months
- At least 6 months, but less than 1 year
- At least 1 year, but less than 2 years
- At least 2 years, but less than 3 years
- At least 3 years, but less than 4 years
- At least 4 years, but less than 5 years
- At least 5 years, but less than 10 years
- At least 10 years, but less than 20 years
- 20 or more years

**4. In the past 12 months, what is the total number of actual days you spent performing your military duty in the Guard or Reserves?** Do not include days spent in annual training.

(Choose the one answer that best applies)

- Active-duty military [Go to question 5]
- Less than 21 days
- At least 21 days, but less than 28 days
- At least 28 days, but less than 35 days
- At least 35 days, but less than 60 days
- At least 60 days, but less than 90 days
- More than 90 days

**5. Are you male or female?**

- Male
- Female

\* Active Marine Corps (USMC) and Active Navy (USN) are not included in this list because they were already surveyed.

**6. What is your highest level of education now?**

(Choose the one answer that best applies)

- Did not graduate from high school
- GED or ABE certificate
- High school graduate
- Trade or technical school graduate
- Some college but not a 4-year degree
- 4-year college degree (BA, BS, or equivalent)
- Graduate or professional study but no graduate degree
- Graduate or professional degree

**7. About how tall are you without shoes on?**

- 4 feet, 7 inches
- 5 feet, 0 inches
- 6 feet, 0 inches
- 4 feet, 8 inches
- 5 feet, 1 inch
- 6 feet, 1 inch
- 4 feet, 9 inches
- 5 feet, 2 inches
- 6 feet, 2 inches
- 4 feet, 10 inches
- 5 feet, 3 inches
- 6 feet, 3 inches
- 4 feet, 11 inches
- 5 feet, 4 inches
- 6 feet, 4 inches
- 5 feet, 5 inches
- 6 feet, 5 inches
- 5 feet, 6 inches
- 6 feet, 6 inches
- 5 feet, 7 inches
- 6 feet, 7 inches
- 5 feet, 8 inches
- 6 feet, 8 inches
- 5 feet, 9 inches
- 6 feet, 9 inches
- 5 feet, 10 inches
- 6 feet, 10 inches
- 5 feet, 11 inches
- 6 feet, 11 inches

**8. About how much do you weigh without shoes on?**

(WOMEN: If you are currently pregnant, please enter your usual weight before you became pregnant.)

- First, enter your weight in the boxes.  
Use all three boxes.  
Write **ONE** number in each box.

POUNDS		
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

- Then, darken the matching circle below each box.

## DEMOGRAPHIC INFORMATION

**9. How old were you on your last birthday?**

- First, enter your age in the boxes. Use both boxes. Write **ONE** number in each box.

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

- Then, darken the matching circle below each box.

**10. What is your current marital status?**

- Not married, but living as married
- Married
- Separated and not living as married
- Divorced and not living as married
- Widowed and not living as married
- Single, never married, and not living as married

**11. Are you of Spanish or Hispanic origin or descent?**

- No (not Spanish or Hispanic)
- Yes, Puerto Rican
- Yes, Mexican or Mexican-American or Chicano
- Yes, Cuban
- Yes, Central or South American
- Yes, other Spanish or Hispanic origin

**12. Which of these categories best describes you?**

- American Indian/Eskimo/Aleut
- Black/African-American
- Asian/Chinese/Japanese/Korean/Filipino/Asian Indian/Pacific Islander
- White/Caucasian
- Other

**13. Which of the following best describes your employment situation?**

(Choose the one answer that best applies)

- Active-duty military
- Employed as a civilian in a military job
- Employed as a civilian in a non-military job
- Self-employed
- Unemployed
- Homemaker
- Student
- Retired
- Unable to work

**14. What is your pay grade?**

**ENLISTED**

- E-1
- E-2
- E-3
- E-4
- E-5
- E-6
- E-7
- E-8
- E-9

**OFFICER**

- Trainee
- W1-W5
- O-1 or O-1E
- O-2 or O-2E
- O-3 or O-3E
- O-4
- O-5
- O-6
- O-7 to O-10

**15. Which of the following categories best describes your military responsibilities?** If you need to, please refer to the handout that came with this survey for examples of different job categories.

(Choose the one answer that best applies)

**ENLISTED**

- Infantry, Gun Crew, Air Crew, or Seaman Specialist
- Electronic Equipment Repair Specialist
- Communications or Intelligence Specialist
- Health Care Specialist/Technician
- Other Technical or Allied Specialist
- Functional Support and Administration
- Electrical or Mechanical Equipment Repair Specialist
- Craftsman
- Service and Supply Handler
- Other (e.g., officer candidates, students, special duties)

**OFFICER**

- General Officer, Executive Officer, or Commanding Officer
- Tactical Operations Officer
- Intelligence Officer
- Engineering or Maintenance Officer
- Scientist, Professional, or Staff Support (not involved in health care)
- Health Care Provider
- Administrator or Operational Support
- Supply, Procurement, or Allied Officer
- Other (e.g., students, trainees, billet designators)

**16. What was your annual household income from ALL sources last year?** Please estimate your annual

household income before taxes were taken out. As with all information you provide on this survey, your answer to this question will be kept confidential.

- Less than \$15,000
- \$15,000 to \$19,999
- \$20,000 to \$24,999
- \$25,000 to \$34,999
- \$35,000 to \$44,999
- \$45,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 or more

# HEALTH

17. In general, would you say your health is:

- Excellent
- Very good
- Good
- Fair
- Poor

18. During the past 30 days, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? (Darken one circle on each line)

Because of my physical health during the past 30 days, I:

Yes      No

- a. Cut down the amount of time I spent on work or other activities
- b. Accomplished less than I would have liked
- c. Was limited in the kind of work or other activities I could do
- d. Had difficulty performing the work or other activities (took extra effort)

19. During the past 30 days, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)? (Darken one circle on each line)

Because of emotional problems during the past 30 days, I:

Yes      No

- a. Cut down on the amount of time I spent on work or other activities
- b. Accomplished less than I would have liked
- c. Didn't do work or other activities as carefully as usual

20. During the past 30 days, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

21. How much of the time during the past 30 days:

- None of the time
- A little of the time
- Some of the time
- A good bit of the time
- Most of the time
- All of the time

- a. Did you feel full of pep? .....
- b. Did you have a lot of energy? .....
- c. Did you feel worn out? .....
- d. Did you feel tired? .....

22. How true or false is each of the following statements for you?

- Definitely false
- Mostly false
- Don't know
- Mostly true
- Definitely true

- a. I seem to get sick a little easier than other people I know .....
- b. I am as healthy as anybody I know .....
- c. I expect my health to get worse .....
- d. My health is excellent .....

23. During the past 30 days, how much of the time have your physical or emotional problems interfered with your normal social activities (like visiting with friends, relatives, etc.)?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

24. During the past 30 days, on the average, how many hours of sleep did you get per night?

- 0     1     2     3     4     5     6     7     8     9     10     11+

25. Has a health care provider ever told you that you had any of the following?

	If yes, what was the result?		
	No, Never	Yes, But No Longer a Problem	Yes, Still a Problem
a. Asthma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Chronic bronchitis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Chronic rhinitis or hay fever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Other allergies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Positive skin test for tuberculosis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Cervical cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Breast cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Skin cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Other cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Heart disease or angina	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. High blood pressure (hypertension)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. High cholesterol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Anemia (low blood iron)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Varicose veins	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Has a health care provider ever told you that you had:

o. Hernia or rupture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Hemorrhoids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Ulcer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Bowel or intestinal trouble (e.g., colitis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Gallstones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Thyroid disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Diabetes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
v. Hepatitis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
w. Urinary tract infection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
x. Repeated kidney infections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
y. Kidney stones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
z. Other kidney disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Has a health care provider ever told you that you had:

aa. Pelvic inflammatory disease (PID)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
bb. Herpes or genital warts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
cc. Other sexually transmitted diseases (e.g., gonorrhea, syphilis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dd. Positive test for the HIV/AIDS virus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ee. Sterility/infertility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ff. Arthritis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
gg. Other bone, muscle, or joint problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
hh. Chronic back problems (e.g., sciatica)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ii. Nerve pain (neuralgia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
jj. Migraines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
kk. Head injury (involving stitches or unconsciousness)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ll. Depression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
mm. Hearing loss or problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
nn. Vision impairment or problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
oo. Gum disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Think about any illnesses you may have had in the past 12 months. How many days were you unable to perform your military job because of an illness in the past 12 months? (WOMEN: Do NOT count illnesses that occurred during pregnancy or maternity leave as part of your answer.)

- First, enter the number of days in the boxes. Use all three boxes. Write ONE number in each box.

- If you have NOT had an illness in the past 12 months, please enter 000.

- If you had any illnesses in the past 12 months but none of them made you unable to perform your military job, please enter 000.

- Then, darken the matching circle below each box.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

27. Think about any injuries you may have had in the past 12 months. How many days were you unable to perform your military job because of an injury in the past 12 months? (WOMEN: Do NOT count injuries that occurred during maternity leave or pregnancy as part of your answer.)

- First, enter the number of days in the boxes. Use all three boxes. Write ONE number in each box.

- If you have NOT had an injury in the past 12 months, please enter 000.

- If you had any injuries in the past 12 months but none of them made you unable to perform your military job, please enter 000.

- Then, darken the matching circle below each box.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

If you are Reserve/Guard personnel, please go to question 28 at the top of the first column on the next page.

If you are active-duty personnel, please go to question 30 at the top of the second column on the next page.

If you are in the Guard or Reserve, "usual job" refers to your civilian job. If you are a student or homemaker, your work falls into the category of usual job.

28. Think about any illnesses you may have had in the past 12 months. How many days were you unable to perform your usual job because of an illness in the past 12 months? (WOMEN: Do NOT count illnesses that occurred during maternity leave or pregnancy as part of your answer.)

- First, enter the number of days in the boxes. Use all three boxes. Write ONE number in each box.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

29. Think about any injuries you may have had in the past 12 months. How many days were you unable to perform your usual job because of an injury in the past 12 months? (WOMEN: Do NOT count injuries that occurred during maternity leave or pregnancy as part of your answer.)

- First, enter the number of days in the boxes. Use all three boxes. Write ONE number in each box.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

## Preventive Care

30. A **fecal occult blood test** is a test of a bowel movement to determine whether it contains blood. When did you have your most recent fecal occult blood test?

- Within the past year
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- More than 3 years ago, but within the past 5 years
- More than 5 years ago
- Never
- Don't know

31. About how long has it been since you had your blood pressure taken by a doctor, nurse, or other health care professional?

- Within the past year
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- More than 3 years ago, but within the past 5 years
- More than 5 years ago
- Never
- Don't know

32. About how long has it been since you had your cholesterol checked?

- Within the past year
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- More than 3 years ago, but within the past 5 years
- More than 5 years ago
- Never
- Don't know

33. How long has it been since you last visited a dentist or dental health professional for a routine checkup or cleaning?

- Within the past year
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- More than 3 years ago, but within the past 5 years
- More than 5 years ago
- Never
- Don't know

## Health Care

34. In the past 12 months, what has been the main (or primary) source of payment for your medical or doctor's bills?

(Choose the one answer that best applies)

- Active-duty medical benefits
- Reserve or Guard medical benefits
- Veterans Administration medical benefits
- Other government-sponsored medical insurance (such as Federal employee insurance, or Medicaid)
- Health insurance from a civilian employer (including insurance you receive through your spouse's employment)
- Other private insurance coverage
- Your own money
- Money received or borrowed from family or friends

35. In the past 12 months, what has been the main (or primary) source of payment for your dental bills?

(Choose the one answer that best applies)

- Active-duty medical/dental benefits
- Reserve or Guard medical/dental benefits
- Veterans Administration medical/dental benefits
- Other government-sponsored medical insurance (such as Federal employee insurance, or Medicaid)
- Health insurance from a civilian employer (including insurance you receive through your spouse's employment)
- Other private insurance coverage
- Your own money
- Money received or borrowed from family or friends

36. In the past 12 months, did cost keep you from getting any of the following?

(Darken one circle on each line)

Cost kept me from getting:

Yes      No

a. Health insurance coverage	<input type="radio"/>	<input type="radio"/>
b. Treatment of an illness or injury	<input type="radio"/>	<input type="radio"/>
c. Follow-up visit for an illness or injury	<input type="radio"/>	<input type="radio"/>
d. General physical exam	<input type="radio"/>	<input type="radio"/>
e. Prescription medication	<input type="radio"/>	<input type="radio"/>
f. Eye care	<input type="radio"/>	<input type="radio"/>
g. Prenatal care	<input type="radio"/>	<input type="radio"/>
h. Any type of surgery	<input type="radio"/>	<input type="radio"/>
i. Mental health care	<input type="radio"/>	<input type="radio"/>
j. Emergency care	<input type="radio"/>	<input type="radio"/>
k. Dental care	<input type="radio"/>	<input type="radio"/>
l. Counseling for an alcohol or other drug problem	<input type="radio"/>	<input type="radio"/>

37. In the past 12 months, were you unable to get any of the kinds of care described in question 36 because you could not meet your deductible or co-payments?

- Yes
- No

38. Please indicate how many times you went to a military health care provider for your own health care during the past 12 months. Care from a Veterans Administration facility is not included here—Go to question 39.

- Did not receive care from a military provider in past 12 months [Go to question 39]

I went to a military provider for:	Number of times				
	0	1	2	3	4 or more
(Darken one circle on each line)					
a. Treatment of an illness or injury	<input type="radio"/>				
b. Follow-up visit for an illness or injury	<input type="radio"/>				
c. General physical exam	<input type="radio"/>				
d. Prescription refill only	<input type="radio"/>				
e. Eye exam only	<input type="radio"/>				
f. Prenatal care	<input type="radio"/>				
g. Same day surgery	<input type="radio"/>				
h. Surgery that required an overnight hospital stay	<input type="radio"/>				
i. Overnight hospital stay (other than for surgery)	<input type="radio"/>				
j. Mental health care	<input type="radio"/>				
k. Emergency care	<input type="radio"/>				
l. Dental care	<input type="radio"/>				
m. Counseling for an alcohol or other drug problem	<input type="radio"/>				
n. Other type of care	<input type="radio"/>				

39. Please indicate how many times you went to a civilian health care provider for your own health care during the past 12 months. Include care from a Veterans Administration facility here.

- Did not receive care from a civilian provider in past 12 months [Go to question 40 at the top of the next page]

I went to a civilian provider for:	Number of times				
	0	1	2	3	4 or more
(Darken one circle on each line)					
a. Treatment of an illness or injury	<input type="radio"/>				
b. Follow-up visit for an illness or injury	<input type="radio"/>				
c. General physical exam	<input type="radio"/>				
d. Prescription refill only	<input type="radio"/>				
e. Eye exam only	<input type="radio"/>				
f. Prenatal care	<input type="radio"/>				
g. Same day surgery	<input type="radio"/>				
h. Surgery that required an overnight hospital stay	<input type="radio"/>				
i. Overnight hospital stay (other than for surgery)	<input type="radio"/>				
j. Mental health care	<input type="radio"/>				
k. Emergency care	<input type="radio"/>				
l. Dental care	<input type="radio"/>				
m. Counseling for an alcohol or other drug problem	<input type="radio"/>				
n. Other type of care	<input type="radio"/>				

**Stress**

40. When you feel pressured, stressed, or anxious, how often do you engage in each of the following activities?

Nearly all the time  
Rather often  
Sometimes  
Rarely  
Not at all

- a. Talk to a friend or family member .....
- b. Light up a cigarette .....
- c. Have a drink .....
- d. Exercise or play sports .....
- e. Get something to eat .....
- f. Smoke marijuana or use other illegal drugs .....
- g. Think of a plan to solve the problem .....
- h. Think about hurting yourself or killing yourself .....

41. During the past 12 months, how much stress did you experience in your usual job?

- A great deal
- A fairly large amount
- Some
- A little
- None at all
- I don't have a usual or regular job

42. During the past 12 months, how much stress did you experience in your personal life?

- A great deal
- A fairly large amount
- Some
- A little
- None at all

43. During the past 12 months, how much did stress in your usual job interfere with your ability to perform your military responsibilities?

- A lot
- Some
- A little
- Not at all
- Had no stress in my usual job in the past 12 months
- I don't have a usual or regular job

44. During the past 12 months, how much did stress in your personal life interfere with your ability to perform your military responsibilities?

- A lot
- Some
- A little
- Not at all
- Had no stress in my personal life in the past 12 months

**Emotions**

45. Below is a list of ways you might have felt or behaved. Please indicate how often you have felt this way during the past 7 days.

Most or all of the time (5-7 days)  
Occasionally or a moderate amount of time (3-4 days)  
Some or a little of the time (1-2 days)  
Rarely or none of the time (less than 1 day)

**In the past 7 days:**

- a. My sleep was restless .....
- b. I felt lonely .....
- c. I felt I could not shake off the blues even with help from my family or friends .....
- d. I felt sad .....
- e. I could not get "going" .....
- f. I had trouble keeping my mind on what I was doing .....
- g. I felt that everything I did was an effort .....

46. How do you feel about your life as a whole?

- Pleased/delighted
- Mostly satisfied
- Mixed
- Mostly dissatisfied
- Terrible/unhappy

47. During the past 12 months, when you have gotten angry, how often have you:

	Very often	Fairly often	Sometimes	Almost never	Never
a. Sworn and cursed .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
b. Gotten into an argument .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
c. Hid your anger/tried not to show it .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
d. Yelled or shouted .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
e. Tried to calmly explain your feelings or opinions .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
f. Just stopped talking, avoided arguing, and started to do something else .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
g. Made a fist and shown an angry expression on your face .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
h. Taken out your anger by kicking things (like a chair), giving a door a good slam, punching the wall, or looking for something to throw or smash .....	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

## Weight Management and Nutrition

### 48. During the past 12 months, have you tried to lose weight?

Yes  
 No

### 49. How easy or difficult has it been for you to meet military weight standards?

Very easy  
 Somewhat easy  
 Somewhat difficult  
 Very difficult

### 50. During the past 12 months, have you changed your eating habits because of any medical condition?

Yes  
 No

### 51. Are you satisfied with your eating patterns?

Yes  
 No

### 52. Do you ever eat in secret (intentionally hide your eating)?

Yes  
 No

### 53. During the past 7 days, on about how many days did you:

(Darken one circle on each line)

#### Number of Days

0 1 2 3 4 5 6 7

a. Eat breakfast  
b. Eat snacks between meals  
c. Overeat  
d. Not eat enough  
e. Take vitamin pills  
f. Take calcium supplements

<input type="radio"/>							
<input type="radio"/>							
<input type="radio"/>							
<input type="radio"/>							
<input type="radio"/>							
<input type="radio"/>							
<input type="radio"/>							

### 54. During the past 7 days, about how many times did you:

More than 7 times  
4-6 times  
1-3 times  
Never

a. Eat high-fat meats or dairy products (e.g., hamburger, hot dogs, steak, bacon, whole milk, cheese, ice cream) . . . . .

b. Eat fried foods (e.g., french fries, fried chicken, fried eggs) . . . . .

c. Eat sweets (e.g., cakes, pies, cookies, candies) . . . . .

d. Eat low-fat meats or dairy products (e.g., chicken or turkey without skin, low-fat milk, yogurt) . . . . .

e. Eat "leafy" vegetables (e.g., broccoli, cabbage, greens, spinach) . . . . .

f. Eat "starchy" vegetables (e.g., beans, peas, corn, potatoes) . . . . .

g. Eat fruits (e.g., apples, fruit juice, raisins, dried fruit, melons, bananas) . . . . .

h. Eat high-fiber foods (whole grain breads, cereals, bran) . . . . .

### 55. How important do you feel that food choices are in terms of your health?

Probably the most important factor  
 Very important, but not the most important factor  
 Important  
 Not very important  
 Of little or no consequence

### 56. Think about times when you've bought food—that could include groceries, food from restaurants, or food from snack bars. How important to you are the following considerations when you buy food?

Extremely important

Very important

Moderately important

Somewhat important

Not at all important

### When you buy food, how important are a food's:

a. Health benefits, nutritional value . . . . .

b. Price, cost . . . . .

c. Taste, eating enjoyment . . . . .

d. Convenience, ease of preparation . . . . .

e. Calories . . . . .

**Exercise**

57. During the past 30 days, how often did you do each of the following?

- About every day
- 5-6 days a week
- 3-4 days a week
- 1-2 days a week
- 1-3 days in past 30 days
- Never in past 30 days

**In the past 30 days, I:**

- a. Engaged in strenuous physical activity for 20 minutes or more (such as running, jogging, or walking) .....
- b. Engaged in activities that improve muscle strength (such as pushups, situps, weight lifting, or resistance training) .....
- c. Engaged in mild physical activity (such as baseball, bowling, or volleyball) more for the recreation than for the exercise .....

58. If you indicated that you engaged in strenuous activity in question 57, how long have you been doing that (as often as you said in question 57)?

- Didn't do any strenuous activity in the past 30 days
- Less than 1 month
- At least 1 month, but less than 4 months
- At least 4 months, but less than 1 year
- At least 1 year, but less than 3 years
- At least 3 years, but less than 5 years
- 5 years or more

59. How would you rate your current physical fitness?

- Poor
- Fair
- Good
- Very good
- Excellent

60. In the past 12 months, how easy or difficult was it for you to pass your service's Physical Training (PT) test?

- Very easy
- Somewhat easy
- Somewhat difficult
- Very difficult
- I have taken a PT test, but not in the past 12 months
- I have never taken a PT test

**Alcohol Use**

Please answer ALL of the following alcohol use questions even if you don't drink or you're not a regular drinker.

61. During the past 30 days, on how many days did you drink one or more drinks of alcoholic beverages?

Count as a drink a can or bottle of beer; a wine cooler or a glass of wine, champagne, or sherry; or a shot of liquor or a mixed drink or cocktail.

- 28-30 days (about every day)
- 20-27 days (5-6 days a week, average)
- 11-19 days (3-4 days a week, average)
- 4-10 days (1-2 days a week, average)
- 2-3 days in the past 30 days
- Once in the past 30 days
- None in the past 30 days
- Never drank alcoholic beverages in my life

62. Think about the days when you drank in the past 30 days. How many drinks did you usually drink on a TYPICAL day? Count as a drink a can or bottle of beer; a wine cooler or a glass of wine, champagne, or sherry; or a shot of liquor or a mixed drink or cocktail.

- 9 drinks or more
- 8 drinks
- 7 drinks
- 6 drinks
- 5 drinks
- 4 drinks
- 3 drinks
- 2 drinks
- 1 drink
- None in the past 30 days
- Never drank alcoholic beverages in my life

63. During the past 30 days, on how many days did you have 5 or more drinks on the same occasion? By "occasion," we mean at the same time or within a couple of hours of each other.

- 28-30 days (about every day)
- 20-27 days (5-6 days a week, average)
- 11-19 days (3-4 days a week, average)
- 4-10 days (1-2 days a week, average)
- 2-3 days in the past 30 days
- Once in the past 30 days
- Drank during the past 30 days, but never had 5 or more drinks on the same occasion
- None in the past 30 days
- Never drank alcoholic beverages in my life

**Tobacco Use**

Please answer ALL of the following tobacco use questions even if you don't use tobacco products or you're not a regular user.

**64. When was the last time you smoked a cigarette?**

- Today
- During the past 30 days
- 5-8 weeks ago
- 2-3 months ago
- 4-6 months ago
- 7-12 months ago
- 1-3 years ago
- More than 3 years ago
- Never smoked cigarettes in my life

**65. Think about the past 30 days. How many cigarettes did you usually smoke on a TYPICAL day?**

- About 3 or more packs a day (more than 55 cigarettes)
- About 2½ packs a day (46-55 cigarettes)
- About 2 packs a day (36-45 cigarettes)
- About 1½ packs a day (26-35 cigarettes)
- About 1 pack a day (16-25 cigarettes)
- About ½ pack a day (6-15 cigarettes)
- 1-5 cigarettes a day
- Less than 1 cigarette a day, on the average
- Did not smoke any cigarettes in the past 30 days
- Never smoked cigarettes in my life

**66. Have you smoked at least 100 cigarettes in your entire life? (That would be 5 packs or more in your entire life.)**

- Yes
- No

**67. During the past 12 months, have you made a serious attempt to stop smoking cigarettes; that is, did you go for at least a week without smoking?**

- Yes
- No
- Didn't smoke cigarettes in the past 12 months
- Never smoked cigarettes in my life

**68. When was the last time you used chewing tobacco or snuff or other smokeless tobacco?**

- During the past 30 days
- More than 1 month ago but within the past 6 months
- More than 6 months ago but within the past year
- More than 1 year ago but within the past 2 years
- More than 2 years ago
- Never used smokeless tobacco in my life

**69. During the past 12 months, how often on the average have you used chewing tobacco or snuff or other smokeless tobacco?**

- About every day
- 5-6 days a week
- 3-4 days a week
- 1-2 days a week
- 2-3 days a month
- About once a month
- 7-11 days in the past 12 months
- 3-6 days in the past 12 months
- Once or twice in the past 12 months
- Not once in the past 12 months
- Never used smokeless tobacco in my life

**70. Have you used chewing tobacco or snuff or other smokeless tobacco at least 20 times in your entire life?**

- Yes
- No

**71. During the past 12 months, how often on the average have you smoked cigars or a pipe?**

- About every day
- 5-6 days a week
- 3-4 days a week
- 1-2 days a week
- 2-3 days a month
- About once a month
- 7-11 days in the past 12 months
- 3-6 days in the past 12 months
- Once or twice in the past 12 months
- Not once in the past 12 months
- Never smoked cigars or pipes in my life

**Sexual Behavior****72. How many sexual partners have you had in the past 12 months?**

0  1  2  3  4  5  6  7  8  9  10  11+

**73. In the past 12 months, how often did you or your partner(s) use a condom when you had sex?**

- Did not have sex in the past 12 months
- Never
- Hardly any of the time
- Some of the time
- About half of the time
- Most of the time
- Every time

**74. In the past 12 months, have you ever had sex with anyone who has been told that he or she has HIV, AIDS, or the AIDS virus?**

- Yes
- No
- Don't know

**75. In the past 30 days, which of the following methods did you and your partner(s) use to prevent pregnancy?**

- Did not have sex in the past 30 days [Go to question 78 at the top of the next page]
- Did not use any method to prevent pregnancy in the past 30 days [Go to question 76]

**To prevent pregnancy, we used:***(Darken one circle on each line)***Yes      No**

- a. Birth control pills
- b. Depo-provera
- c. Norplant
- d. Condom
- e. Diaphragm or cervical cap
- f. Spermicide (foam, jelly, cream, suppositories)
- g. Sponge
- h. IUD
- i. Douche
- j. Withdrawal
- k. Rhythm
- l. Abstinence (not having sex when you had the opportunity)
- m. Some other method

**76. In the following question, "partner" refers to the person you have sex with the most. Have you or your partner:**

	<b>Yes</b>	<b>No</b>
a. Had a vasectomy	<input type="radio"/>	<input type="radio"/>
b. Had a tubal ligation (had "tubes tied")	<input type="radio"/>	<input type="radio"/>
c. Had a hysterectomy	<input type="radio"/>	<input type="radio"/>
d. Found out that one of you was infertile or sterile	<input type="radio"/>	<input type="radio"/>

[If you answered "yes" to any of these, go to question 78 at the top of the next page]

**77. A list of reasons why people sometimes do not use birth control follows. Please indicate if each reason was a reason why you did not use birth control in the past 30 days:**

- Used birth control in the past 30 days [Go to question 78 at the top of the next page]

**I did NOT use birth control in the past 30 days because:***(Darken one circle on each line)***Yes      No**

- a. Using birth control is against my religious or moral beliefs
- b. My partner(s) didn't want us to use birth control
- c. Using birth control is too much of a hassle
- d. We wanted to have a baby (get pregnant)
- e. Using birth control is too expensive
- f. I was too embarrassed to ask for it
- g. Some other reason

**Life Changes**

78. In the past 12 months, how many serious personal losses or difficult problems have you had to handle (such as a promotion passover, divorce or separation, legal or disciplinary action, bankruptcy, large bills or credit card debt, death of someone close, serious illness or injury of a loved one)?

- Many
- Some
- Few
- None

79. Have you seriously considered suicide?

(Darken one circle on each line)

I have seriously considered suicide within the:

Yes      No

- a. Past 2 years
- b. Past year
- c. Past 2 months

If you answered "yes" to any of the items in question 79, please seek help. If you are in the US, contact Covenant House at 1-800-999-9999 (an anonymous, civilian hotline). They can also give you information about resources available in your area. If you are outside the US, please contact your unit's chaplain.

80. In the past 12 months, how often did you have any serious problems dealing with your spouse, parents, friends, co-workers, or with your children?

- Often
- Sometimes
- Rarely (but at least once)
- Never

81. In the past 12 months, how often did you experience a major pleasant change (such as a promotion, marriage, birth, award)?

- Often
- Sometimes
- Rarely (but at least once)
- Never

82. What causes the biggest problem in your life?  
(Choose the one answer that best applies)

- Social life
- Family
- Supervisor
- Military job
- Civilian job
- Spouse's job
- Health
- Money
- Something else
- No problems

For this questionnaire, please use the following definitions for emotional, sexual, and physical abuse. **Physical abuse** is forceful behavior (even once) that may result in physical injury.

**Sexual abuse** is taking advantage of another person by fondling, rape, or forcing that person to take part in other sex acts against that person's will.

**Emotional abuse** is the misuse of a person's feelings; as a result, one thinks less of oneself.

83. Were you abused before entering the Military?

(Darken one circle on each line)

Before entering the Military, I had been:

Yes      No

- a. Physically abused
- b. Sexually abused
- c. Emotionally abused

84. Since entering the Military, have you been abused by someone else in the Military?

(Darken one circle on each line)

Since entering the Military, I have been:

Yes      No

- a. Physically abused
- b. Sexually abused
- c. Emotionally abused

85. Since entering the Military, have you been abused by someone NOT in the Military?

(Darken one circle on each line)

Since entering the Military,

I have been:

Yes      No

- a. Physically abused
- b. Sexually abused
- c. Emotionally abused

86. Have you ever received counseling to help you deal with abuse you've suffered?

(Darken one circle on each line)

I have received counseling for:

Yes      No      Never been abused in this way

- a. Physical abuse
- b. Sexual abuse
- c. Emotional abuse

**Friends and Family**

87. How many close friends do you have (people you feel at ease with, can talk to about private matters, and can call for help)?

1  2  3  4  5  6  7  8  9  10  11+

88. How many relatives do you have that you feel close to?

1  2  3  4  5  6  7  8  9  10  11+

89. How many of these friends or relatives do you see at least once a month?

1  2  3  4  5  6  7  8  9  10  11+

90. Are you a member of any social clubs or groups?

Yes  
 No

91. Are you an active member of a church, temple, or other religious organization?

Yes  
 No

92. In the past 12 months, how many children (natural, adopted, stepchildren, or grandchildren) under the age of 21 lived in your household?

1  2  3  4  5  6  7  8  9  10  11+

93. What are the ages of the children who lived in your household in the past 12 months?

No children lived in my household in the past 12 months [Go to question 94]

I have had children living in my household who are:

(Darken one circle on each line)

Yes No

- a. Less than 6 months old
- b. 6 months to under 1 year old
- c. 12 to 23 months old
- d. 24 to 35 months old
- e. 3 to 5 years old
- f. 6 to 9 years old
- g. 10 to 12 years old
- h. 13 to 15 years old
- i. 16 to 20 years old

**Disaster or Violence Exposure**

Exposure to a disaster or violence can sometimes have long-term effects. The following questions will help to provide a history of exposure to disasters or violence that may help in studying their effects.

94. Have you ever been exposed to a natural disaster involving injuries or fatalities (such as earthquakes, fires, floods)?

(Darken one circle on each line)

I have been exposed to a natural disaster as:

Yes No

a. a witness

b. a survivor or victim

c. a participant in cleanup, rescue, investigation, or aid (remote or on-site)

95. Have you ever been exposed to combat or violence involving injuries or fatalities?

(Darken one circle on each line)

I have been exposed to combat or violence as:

Yes No

a. a witness

b. a survivor or victim

c. a participant in cleanup, rescue, investigation, or aid (remote or on-site)

d. someone who has used deadly force in combat

96. Have you ever witnessed or been exposed to a major accident involving injuries or fatalities?

(Darken one circle on each line)

I have been exposed to a major accident as:

Yes No

a. a witness

b. a survivor or victim

c. a participant in cleanup, rescue, investigation, or aid (remote or on-site)

**Military Work**

The following questions ask how you feel about your current military job.

**97. How often are you bothered by each of the following in your military job?**  
(Darken one circle on each line)

Nearly all the time  
Rather often  
Sometimes  
Rarely  
Not at all

- a. Not having enough help and equipment to get the job done well
- b. Feeling you have too much responsibility for the work of others
- c. Thinking that you'll not be able to meet the conflicting demands of various people you work with
- d. Having to do or decide things where mistakes could be quite costly
- e. Not knowing just what the people you work with expect from you
- f. Thinking that the amount of work you have to do may interfere with how well it gets done

**How often are you bothered by each of the following in your military job?**

- g. Feeling that you have to do things on the job that are against your better judgment
- h. Feeling that your job tends to interfere with your family life
- i. Feeling unable to influence your immediate supervisor's decisions and his/her actions that affect you
- j. Having to deal with or satisfy too many different people
- k. Being asked to work overtime when you don't want to
- l. Feeling trapped in a job you don't like but can't change and can't get out of

**98. Overall, how satisfied would you say you are with your current military job?**

- Very dissatisfied
- Somewhat dissatisfied
- Somewhat satisfied
- Very satisfied

**99. Knowing what you know now, if you had to decide all over again whether to serve in your current military job, what would you decide?**

- Decide definitely not to serve in my current military job
- Have some second thoughts about serving in my current military job
- Decide without hesitation to serve in my current military job

**100. In general, how well would you say that your current military job measures up to the sort of job you wanted when you took it?**

- Measures up very much
- Measures up somewhat
- Doesn't measure up

**101. If a good friend told you that he or she was interested in working in a job like your current military job, what would you tell him or her?**

- Advise him/her against it
- Recommend it with some doubts
- Strongly recommend it

**102. How sad or happy do you feel about your current military job?**

Happy      Sad

## DEPLOYMENT

Deployment occurs when you are alerted, activated, and processed for movement in support of "real world" military operations. Deployment does not include scheduled trainings (such as annual training).

**103. In the past 5 years, have you ever been prevented or deferred from deploying for any of the following reasons:**

- Never been deployed in the past 5 years [Go to question 112 at the top of the next page]
- Never been prevented from deploying in the past 5 years [Go to question 104]

I was not deployed because of:

(Darken one circle on each line)

Yes      No

- a. A pregnancy
- b. A family situation
- c. An injury
- d. Dental work or dental problems
- e. An abnormal Pap smear
- f. A chronic illness (e.g., asthma, diabetes)

**104. Think about the last time you were deployed. Did you have orders to go someplace other than your usual duty location?**

- Yes
- No
- Never been deployed

**105. The last time you were deployed, how long were you away from your home for 24 hours or more?**

- Less than 1 week
- At least 1 week, but less than 2 weeks
- At least 2 weeks, but less than 3 weeks
- At least 3 weeks, but less than 4 weeks
- At least 1 month, but less than 2 months
- At least 2 months, but less than 5 months
- At least 5 months, but less than 6 months
- At least 6 months, but less than 12 months
- At least 1 year, but less than 2 years
- At least 2 years, but less than 4 years
- More than 4 years
- Never been deployed

**106. Think about the last time you were deployed.**

Very satisfied

Satisfied

Dissatisfied

Very dissatisfied

Don't know

How satisfied were you with:

- a. The number of toilet facilities provided ..
- b. The number of hand washing facilities provided .....
- c. The number of shower facilities provided .....
- d. The amount of privacy available for personal hygiene .....
- e. The availability of health care services ..

**107. Did you serve with the Military in any of the following areas?**

(Darken one circle on each line)

I served in:

Yes      No

- a. The Persian Gulf—Operations Desert Shield or Desert Storm
- b. Panama—Operation Just Cause
- c. Somalia—Operation Restore Hope
- d. Haiti—Operation Uphold Democracy
- e. Bosnia—Operations Joint Endeavor or Joint Guard
- f. Cuba—Operation Safe Haven
- g. Other foreign areas

**108. While deployed during the following operations, how much of the time were you on foreign soil (do not include time aboard a ship)?**

Nearly all the time

Rather often

Sometimes

Rarely

Not at all

I was on foreign soil during:

- a. The Persian Gulf—Operations Desert Shield or Desert Storm .....
- b. Panama—Operation Just Cause .....
- c. Somalia—Operation Restore Hope .....
- d. Haiti—Operation Uphold Democracy .....
- e. Bosnia—Operations Joint Endeavor or Joint Guard .....
- f. Cuba—Operation Safe Haven .....
- g. Other foreign areas .....

If you are in the Guard or Reserve, "usual job" refers to your civilian job. If you are a student or homemaker, your work falls into the category of usual job.

**109. The last time you were deployed, how much stress did you experience upon returning to your usual job?**

- A great deal
- A fairly large amount
- Some
- A little
- None at all
- Never been deployed

**110. The last time you were deployed, how much stress did you experience upon returning to your home?**

- A great deal
- A fairly large amount
- Some
- A little
- None at all
- Did not leave home the last time I was deployed
- Never been deployed

**111. During the past 12 months, have you been away from your home as part of your military service for at least 30 days in a row?**

- Yes
- No

## OCCUPATIONAL HEALTH

### Occupational Health

112. During the past 30 days, have you been exposed to tobacco smoke for an hour or more a day?

	Yes	No
a. At work	<input type="radio"/>	<input type="radio"/>
b. At home	<input type="radio"/>	<input type="radio"/>

113. In your military job, how often are you/have you been exposed to the hazards listed below?

	Most of the time	A moderate amount of the time	Some of the time	Rarely
	Never	Don't know	Never	Don't know

I've been exposed to:

- a. Fibrous glass (fiberglass) .....
- b. Asbestos .....
- c. Coal dust or rock dust .....
- d. Silica powder or sandblasting dust .....
- e. Other specific dusts (wood, talc, lime) .....
- f. Respiratory or skin irritants .....
- g. Chemicals (acids, alkalis, solvents) .....
- h. Paint (oil-based thinner, scrapings, or sanding) .....
- i. Metal fumes (from molten metal) .....
- j. Metal scrapings/filings .....
- k. Welding fumes .....
- l. Coal tar, pitch, asphalt .....
- m. Engine exhaust (gasoline, diesel, or jet) .....
- n. Fuels or motor oil .....

I've been exposed to:

- o. Loud noise (e.g., jets) .....
- p. Heavy lifting (over 25 lb) .....
- q. X-rays .....
- r. Radioactive materials (e.g., nuclear fuel, nuclear medicines) .....
- s. Vibration (vibrating tools, motors) .....
- t. General shop dust .....
- u. Pesticides, herbicides .....
- v. Alcohol (industrial) .....
- w. Medical waste (e.g., used hypodermic needles) .....
- x. Adhesives .....
- y. Explosives .....
- z. Radar antenna or array (within 50 ft) .....
- aa. Transmitting antennas (within 50 ft) .....
- bb. Some other hazard .....

114. Is protective gear available for you to use in your current military job? Examples of protective gear are gloves, respirator, filter, mask, rubber boots, ear plugs, film badge, hazardous materials suit, and fire fighting suit.

- Always
- Sometimes, but not always
- Never
- Don't need to wear protective gear (no contact with harmful substances)

115. In your military job, when you have contact with substances that might be harmful, how often do you use protective gear?

- Always
- Sometimes, but not always
- Never
- Don't need to wear protective gear (no contact with harmful substances)

116. In your military job, when you have contact with substances that might be harmful, which reasons for NOT wearing protective gear are true for you?

- Don't need to wear protective gear (No contact with harmful substances) [Read appropriate box at bottom of this page]

In my military job, I don't wear protective gear when:

(Darken one circle on each line)

Yes	No
<input type="radio"/>	<input type="radio"/>

If you are **MALE**: Please  here.

Place the questionnaire in the enclosed postage-free envelope and mail it. Thank you for your time and cooperation.

If you are **FEMALE**: We would appreciate it if you would take a few extra minutes to answer some additional questions about women's health issues. Please continue to the next page.

## WOMEN'S HEALTH ISSUES

### Women's Health Issues

This section asks questions about women's health issues, including stress, health care, and medical conditions.

**1. In the past 12 months, how much stress did you experience because you are a woman in the Military?**

- None at all
- A little
- Some
- A fairly large amount
- A great deal

**2. During the past 3 months, did you have any of these conditions? (Include times you have had these conditions even if you didn't seek medical care.)**

- Have had a hysterectomy [Go to question 3]

**In the past 3 months,**

**I have had:**

(Darken one circle on each line)

**Yes      No**

- a. Premenstrual symptoms or pain (PMS, premenstrual cramps)
- b. Cramps or pain during menstrual period requiring medication or time off from work
- c. Heavy periods (excessive menstrual flow)
- d. Light periods (hardly any menstrual flow)
- e. One missed period
- f. No menstrual periods for 2 or more months

**In the past 3 months,**

**I have had:**

- g. A period that lasted longer than a week
- h. Too many periods (time between periods too short)
- i. Bleeding between periods
- j. Endometriosis
- k. Problem with uterus (womb) other than endometriosis

**3. During the past 3 months, did you have any of these conditions? (Include times you have had these conditions even if you didn't seek medical care.)**

(Darken one circle on each line)

**Yes      No**

- a. Discharge from breast
- b. Breast lump
- c. Yeast or vaginal infection
- d. Vaginal rash, discharge, or other disorder except yeast infection or sexually transmitted disease
- e. Abdominal pain (from known cysts)
- f. Abdominal pain (from unknown cause)

**4. At what age did your menstrual cycles begin?**

- Younger than 10 years old
- 10-12 years old
- 13-15 years old
- 16 years old or older
- Don't know

**5. What is the total number of years you have taken birth control pills in your lifetime?**

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12+

**6. A Pap smear is when a health care provider inserts a swab into your vagina to scrape cells from the cervix. How long has it been since you had a Pap smear?**

- Within the past year
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- More than 3 years ago, but within the past 5 years
- More than 5 years ago
- Never
- Don't know

**7. Have you ever had a Pap smear where the result was NOT normal?**

- Yes
- No
- Don't know

**8. If you have had Pap smear results that were NOT normal, have you had any of the following?**

(Darken one circle on each line)

**Because of a Pap smear that was NOT normal, I have had:**

	<b>Yes</b>	<b>No</b>	<b>Never had an abnormal Pap</b>
a. Additional tests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Other treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. More frequent Pap smears	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**9. A mammogram is an X-ray taken of your breasts by a machine that presses each breast (one at a time) between two paddles. When did you have your most recent mammogram?**

- Within the past year
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- 3 or more years ago
- Never
- Don't know

**10. How often do you examine your breasts for lumps?**

- Monthly
- Once every few months
- Rarely or never

## WOMEN'S HEALTH ISSUES

**11. About how long has it been since you had your breasts examined by a health care provider?**

- Within the past year
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- 3 or more years ago
- Never had breasts examined
- Don't know

**12. Have you received training from a medical provider on how to examine your own breasts?**

- Yes
- No

**13. Have you ever had an operation to remove a breast lump that was found to be noncancerous?**

- Yes
- No

**14. While stationed outside the continental United States, how easy or difficult has it been to receive the kind of OB/GYN care you would like?**

- Very easy
- Somewhat easy
- Somewhat difficult
- Very difficult
- Never been stationed outside the continental United States

**15. Have you had problems (such as infertility) getting pregnant?**

- Yes
- No
- Never tried to get pregnant

**16. When you are pregnant, do you feel you are given enough time off from your usual job to see an OB/GYN when necessary?**

- Yes
- No
- Never been pregnant [Go to question 30, which is the last question on the next page]

**17. If you have been pregnant in the past 12 months, did you know where to get information about risks to your pregnancy from your usual job?**

- Yes
- No
- Have not been pregnant in the past 12 months

**18. How many times have you been pregnant since joining the Military?**

- 1 time
- 2 times
- 3 times
- 4 or more times
- Never been pregnant

**19. Think about the times you've been pregnant since joining the Military. How many planned pregnancies have you had?**

- 1 planned pregnancy
- 2 planned pregnancies
- 3 planned pregnancies
- 4 or more planned pregnancies
- Have had only unplanned pregnancies since joining the Military
- Have had no pregnancies since joining the Military

**20. Have you ever had a pregnancy to avoid deployment or to get to return early from deployment?**

- Yes
- No

**21. How many live births have you had?**

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11+

**22. How many premature babies have you had?**

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11+

**23. How many of the babies that you have had weighed less than 5 pounds at birth?**

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11+

**24. How old were you the first time you gave birth?**

- Never been pregnant

• *First, enter your age when your first child was born. Write ONE number in each box.*

YRS	
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

• *Then, darken the matching circle below each box.*

**25. To the best of your knowledge, when was the last time you were pregnant?**

- Currently pregnant
- May be pregnant now, but don't know for certain
- Within the past year, but not now
- More than 1 year ago, but within the past 2 years
- More than 2 years ago, but within the past 3 years
- More than 3 years ago, but within the past 4 years
- More than 4 years ago, but within the past 5 years
- More than 5 years ago
- Never been pregnant

## WOMEN'S HEALTH ISSUES

The next 4 questions refer to the last time you were pregnant. If you are currently pregnant, please answer for this pregnancy. "Pregnancy checkups" refer to checkups for weight, blood pressure, physical exams, procedures such as ultrasound, or other medical procedures related to pregnancy.

**26. Think about your last pregnancy (or your current pregnancy). How long after you became pregnant did you have your first pregnancy checkup?**

- Within the first 3 months after becoming pregnant
- 4-6 months after becoming pregnant
- More than 6 months after becoming pregnant
- Did not have any pregnancy checkups
- Have not had first checkup
- Never been pregnant

**27. For your last pregnancy (or your current pregnancy), did you have any of the following?**

- Never been pregnant

**During my last pregnancy (or current), I had:**

(Darken one circle on each line)

Yes      No

- a. Pregnancy complications that restricted my normal activities (e.g., high blood pressure, severe swelling, spotting, premature labor, diabetes)
- b. An ectopic or "tubal" pregnancy
- c. Childbirth problems (e.g., hemorrhaging, Caesarean section, induced labor)
- d. A miscarriage or spontaneous abortion
- e. Complications after childbirth that restricted my normal activities (e.g., infection, depression)

**28. How many days were you unable to perform your military job because of an illness during your last pregnancy (or your current pregnancy)?**

- Never been pregnant

**• First, enter the number of days in the boxes. Use all three boxes. Write ONE number in each box.**

DAYS		
0	0	0
1	1	1
2	2	2
3	3	3
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

- If you did NOT have an illness during your last (or current) pregnancy, please enter 000.**
- If you had any illnesses during your last (or current) pregnancy, but none of them made you unable to perform your military job, please enter 000.**
- Then, darken the matching circle below each box.**

**29. If you are in the Guard or Reserves, how many days were you unable to perform your usual job because of an illness during your last pregnancy (or your current pregnancy)?**

- Active-duty personnel [Go to question 30]
- Never been pregnant [Go to question 30]

**• First, enter the number of days in the boxes. Use all three boxes. Write ONE number in each box.**

- If you did NOT have an illness during your last (or current) pregnancy, please enter 000.**
- If you had any illnesses during your last (or current) pregnancy, but none of them made you unable to perform your military job, please enter 000.**
- Then, darken the matching circle below each box.**

DAYS		
0	0	0
1	1	1
2	2	2
3	3	3
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

**30. During the past 30 days, have you taken replacement estrogens?**

- Yes
- No

**Thank you for the extra effort to complete these questions.**

Place the questionnaire in the enclosed postage-free envelope and mail it.

Thank you for your time and cooperation.

## APPENDIX G

### 1995 POWR ASSESSMENT: PERCEPTIONS OF WELLNESS AND READINESS

# 1995 *POWR* Assessment: Perceptions of Wellness and Readiness



DEPARTMENT OF THE NAVY  
NAVAL HEALTH RESEARCH CENTER  
SAN DIEGO, CA



## PRIVACY ACT STATEMENT

1. *Authority. 5 USC 301, 10 USC 1071. OPNAV 6000-15a-c, 11/30/95.* 2. *Purpose. Medical research information will be collected to enhance basic medical knowledge concerning medical care and health promotion.* 3. *Routine use. Medical research information will be used in statistical analyses by the Department of the Navy, Defense, and other U.S. Government agencies, provided this is compatible with the purpose for which information was collected. Use of the information may be granted to non-Government agencies by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act.* 4. *Voluntary disclosure. I understand that all information derived from the study will be retained at the Naval Health Research Center, San Diego, and that my anonymity will be maintained. I voluntarily agree to its disclosure to agencies or individuals identified in the preceding section, and I have been informed that failure to agree to such disclosure may negate the purposes of the study. I understand that my provision of information is voluntary, and that I am free to discontinue filling out the questionnaire and withdraw from the study at any time without prejudice or loss of medical treatment or privileges to which I would otherwise be entitled.*

## ABOUT THIS QUESTIONNAIRE

### WHY ME?

You have been selected at random to be a part of the group of people who represent all active duty Navy and Marine Corps personnel. Enough people were selected to participate in this survey so that valid conclusions can be made about the health status of military personnel and the appropriateness of military health services.

### WHY SHOULD I BOTHER? DO SURVEYS CHANGE ANYTHING?

In general, statistics from surveys provide valuable information to policymakers and planners about your health and health care services. Survey data help to identify parts of our health care system that work well and the parts that need to be improved. Changes to the system may take time, but filling out this survey will help ensure that we make changes as quickly as possible. Your response counts!

### WILL MY SURVEY RESULTS BE KEPT PRIVATE?

Yes. Under no circumstances will any information about individuals be released to anyone. Any identifiable information will be used only by persons engaged in, and for the purposes of, the survey. A number will be given to each questionnaire and only that number will be used in analyses. Moreover, the results will be derived from pooled data and no individual's responses will be identifiable.

### AREN'T SOME OF THE QUESTIONS VERY PERSONAL?

Yes. Although people will have different views on what is or is not personal, most people will consider at least some of the questions to be very personal. We are asking questions to evaluate the health of military members and the health care they receive. Good estimates can be made only if most people answer all the questions in the survey. However, you can choose not to answer particular items.

## MARKING INSTRUCTIONS

- USE A NO. 2 PENCIL.
- MAKE HEAVY MARKS THAT FILL THE CIRCLE FOR YOUR ANSWER.
- ERASE CLEANLY ANY MARKS YOU WISH TO CHANGE.
- PLEASE DO NOT MAKE STRAY MARKS OF ANY KIND.

CORRECT MARK

INCORRECT MARKS

## DEMOGRAPHIC DATA

8.	<b>MARITAL STATUS</b>			
		<input type="radio"/> Married <input type="radio"/> Living as married <input type="radio"/> Separated and not living as married <input type="radio"/> Divorced and not living as married <input type="radio"/> Widowed and not living as married <input type="radio"/> Single, never married and not living as married		
9.	<b>TOTAL TIME IN SERVICE</b>			
		<b>YRS</b>	<b>MOS</b>	
		0	0	0
		1	1	1
		2	2	2
		3	3	3
		4	4	4
		5	5	5
		6	6	6
		7	7	7
		8	8	8
		9	9	9
10.	<b>SEX</b>			
		<input type="radio"/> Male <input type="radio"/>		
		<input type="radio"/> Female <input type="radio"/>		
11.	<b>HIGHEST LEVEL OF EDUCATION</b>			
		<input type="radio"/> 11 years or less <input type="radio"/> GED or ABE certificate <input type="radio"/> High school graduate <input type="radio"/> Trade or technical school <input type="radio"/> Some college <input type="radio"/> 4-year college degree <input type="radio"/> Graduate or professional study but no degree <input type="radio"/> Graduate or professional degree		
12.	<b>RACE/ETHNIC GROUP</b>			
		<input type="radio"/> White - not Hispanic <input type="radio"/> Black - not Hispanic <input type="radio"/> Hispanic <input type="radio"/> American Indian or Alaskan Native <input type="radio"/> Asian <input type="radio"/> Pacific Islander <input type="radio"/> Filipino <input type="radio"/> Other		
13.	<b>Is your spouse currently living with you at your present duty location?</b>			
		<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not applicable, I currently have no spouse or live-in partner		

## DEMOGRAPHIC DATA (CONTINUED)

14. **PAY GRADE/ RANK**

<input type="radio"/> E-1	<input type="radio"/> O-1	
<input type="radio"/> E-2	<input type="radio"/> O-2	
<input type="radio"/> E-3	<input type="radio"/> O-3	
<input type="radio"/> E-4	<input type="radio"/> O-4	
<input type="radio"/> E-5	<input type="radio"/> O-5	
<input type="radio"/> E-6	<input type="radio"/> O-6	
<input type="radio"/> E-7	<input type="radio"/> O-7	
<input type="radio"/> E-8	<input type="radio"/> O-8	
<input type="radio"/> E-9	<input type="radio"/> O-9	
<input type="radio"/> W-1	<input type="radio"/> O-10	
<input type="radio"/> W-2		
<input type="radio"/> W-3		
<input type="radio"/> W-4		

If your rating abbreviation has two letters instead of three, use the first two columns, starting with the first box on the left.

15. **ENLISTED RATING**

Not rated or		
<input type="radio"/> designated		
striker		
(A)	(A)	(A)
(B)	(B)	(B)
(C)	(C)	(C)
(D)	(D)	(D)
(E)	(E)	(E)
(F)	(F)	(F)
(G)	(G)	(G)
(H)	(H)	(H)
(I)	(I)	(I)
(J)	(J)	(J)
(K)	(K)	(K)
(L)	(L)	(L)
(M)	(M)	(M)
(N)	(N)	(N)
(O)	(O)	(O)
(P)	(P)	(P)
(Q)	(Q)	(Q)
(R)	(R)	(R)
(S)	(S)	(S)
(T)	(T)	(T)
(U)	(U)	(U)
(V)	(V)	(V)
(W)	(W)	(W)
(X)	(X)	(X)
(Y)	(Y)	(Y)
(Z)	(Z)	(Z)

16. **NOBC or NEC if enlisted**

I don't know

<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0
<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1
<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2
<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3
<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4
<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5
<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6
<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7
<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8
<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9

17. **Officer Designator Code**

I don't know

<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0
<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1
<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2
<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3
<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4
<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5
<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6
<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7
<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8
<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9

18. **Officer Primary Subspecialty Code**

I don't know

<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0
<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1
<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2
<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3
<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4
<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5
<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6
<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7
<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8
<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9

19. **Marine Corps MOS**

I don't know

<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0	<input type="radio"/> 0 0 0 0
<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1	<input type="radio"/> 1 1 1 1
<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2	<input type="radio"/> 2 2 2 2
<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3	<input type="radio"/> 3 3 3 3
<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4	<input type="radio"/> 4 4 4 4
<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5	<input type="radio"/> 5 5 5 5
<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6	<input type="radio"/> 6 6 6 6
<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7	<input type="radio"/> 7 7 7 7
<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8	<input type="radio"/> 8 8 8 8
<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9	<input type="radio"/> 9 9 9 9

20. Member of which branch of service?

Navy       Marine Corps

21. To what type of command are you currently assigned?

<input type="radio"/> CONUS Shore	<input type="radio"/> OCONUS Submarine
<input type="radio"/> CONUS Submarine	<input type="radio"/> Overseas FMF
<input type="radio"/> CONUS Ship	<input type="radio"/> Overseas Non-FMF
<input type="radio"/> OCONUS Shore	<input type="radio"/> CONUS FMF
<input type="radio"/> OCONUS Ship	<input type="radio"/> CONUS Non-FMF

22. What is the approximate total time you have served aboard ship counting all time on all ships on which you have served?

<b>Yrs.</b>	<b>Mos.</b>
0 0	0
1 1	1
2 2	2
3 3	3
4 4	4
5 5	5
6 6	6
7 7	7
8 8	8
9 9	9
10 11	10 11

23. What is the approximate total time you have been deployed counting all time on all ships on which you have served?

<b>Yrs.</b>	<b>Mos.</b>
0 0	0
1 1	1
2 2	2
3 3	3
4 4	4
5 5	5
6 6	6
7 7	7
8 8	8
9 9	9
10 11	10 11

24. Did you serve with the military in any of the following areas?  
(Mark all that apply)

No	Yes, Aboard ship	Yes, Ashore
<input type="radio"/> Persian Gulf -- Operation Desert Shield	<input type="radio"/> <input type="radio"/>	<input type="radio"/>
<input type="radio"/> Persian Gulf -- Operation Desert Storm	<input type="radio"/> <input type="radio"/>	<input type="radio"/>
<input type="radio"/> Somalia -- Operation Restore Hope	<input type="radio"/> <input type="radio"/>	<input type="radio"/>
<input type="radio"/> Bangladesh	<input type="radio"/> <input type="radio"/>	<input type="radio"/>
<input type="radio"/> Haiti	<input type="radio"/> <input type="radio"/>	<input type="radio"/>
<input type="radio"/> Other foreign areas	<input type="radio"/> <input type="radio"/>	<input type="radio"/>

## MEDICAL HISTORY

25. Has a health care provider ever told you that you had any of the following? (If yes, please answer question 26.)

26. If yes, what was your age at first diagnosis?

	No, Never	Yes, Recovered	Yes, Still have	0 - 16 Years	17 - 24 Years	25 - 34 Years	35 - 44 Years	45+ Years
a. Asthma	<input type="radio"/>							
b. Chronic bronchitis	<input type="radio"/>							
c. Emphysema	<input type="radio"/>							
d. Chronic rhinitis or hay fever	<input type="radio"/>							
e. Other allergies	<input type="radio"/>							
f. Positive skin test for tuberculosis	<input type="radio"/>							
g. Skin cancer	<input type="radio"/>							
h. Breast cancer	<input type="radio"/>							
i. Cervical cancer	<input type="radio"/>							
j. Other cancer	<input type="radio"/>							
k. Heart disease	<input type="radio"/>							
l. Hypertension (high blood pressure)	<input type="radio"/>							
m. High cholesterol	<input type="radio"/>							
n. Heart murmur	<input type="radio"/>							
o. Other heart problems	<input type="radio"/>							
p. Anemia	<input type="radio"/>							
q. Varicose veins	<input type="radio"/>							
r. Scrotal varices (varicose vein in scrotum)	<input type="radio"/>							
s. Hernia or rupture	<input type="radio"/>							
t. Hemorrhoids	<input type="radio"/>							
u. Other blood circulation problems	<input type="radio"/>							
v. Ulcer	<input type="radio"/>							
w. Bowel or intestinal trouble (e.g. colitis)	<input type="radio"/>							
x. Gallstones	<input type="radio"/>							
y. Thyroid disease	<input type="radio"/>							
z. Diabetes	<input type="radio"/>							
aa. Hepatitis (Jaundice)	<input type="radio"/>							
bb. Other liver problem	<input type="radio"/>							
cc. Urinary tract infection	<input type="radio"/>							
dd. Repeated kidney infections	<input type="radio"/>							
ee. Kidney stones	<input type="radio"/>							
ff. Other bladder trouble	<input type="radio"/>							
gg. Pelvic inflammatory disease (PID)	<input type="radio"/>							
hh. Gonorrhea ("clap")	<input type="radio"/>							
ii. Syphilis	<input type="radio"/>							
jj. Chlamydia	<input type="radio"/>							
kk. Herpes or genital warts	<input type="radio"/>							
ll. Sterility/infertility	<input type="radio"/>							
mm. Arthritis	<input type="radio"/>							
nn. Neuralgia	<input type="radio"/>							
oo. Anorexia or bulimia (eating disorder)	<input type="radio"/>							
pp. Migraines	<input type="radio"/>							
qq. Head injury (involving stitches or unconsciousness)	<input type="radio"/>							
rr. Depression	<input type="radio"/>							
ss. Other psychological condition	<input type="radio"/>							
tt. Speech problems	<input type="radio"/>							
uu. Hearing loss/problems	<input type="radio"/>							
vv. Vision impairment/problems	<input type="radio"/>							
ww. Peridental disease (gum disease)	<input type="radio"/>							
xx. Other (please specify) _____	<input type="radio"/>							

## CURRENT MEDICAL CONDITIONS

27. Have you experienced any of the conditions listed below any time in the past 30 days regardless of whether or not they resulted in a visit to sick call or a health care provider? (Please check NO or YES for every condition) (If yes, please answer question 28.)

	No	Yes	Nothing	Self Care	Seek Medical Care
a. Common cold symptoms	<input type="radio"/>				
b. Dizziness	<input type="radio"/>				
c. Chills	<input type="radio"/>				
d. Cough	<input type="radio"/>				
e. Sore throat	<input type="radio"/>				
f. Fever	<input type="radio"/>				
g. Flu	<input type="radio"/>				
h. Diarrhea lasting at least 3 days	<input type="radio"/>				
i. Stomach problems	<input type="radio"/>				
j. Constipation	<input type="radio"/>				
k. Indigestion	<input type="radio"/>				
l. Nausea/vomiting	<input type="radio"/>				
m. Sinus trouble	<input type="radio"/>				
n. Hay fever	<input type="radio"/>				
o. Shortness of breath	<input type="radio"/>				
p. Hoarseness	<input type="radio"/>				
q. Sleeping problems	<input type="radio"/>				
r. Headaches	<input type="radio"/>				
s. Skin problems	<input type="radio"/>				
t. Muscle sprain or strain	<input type="radio"/>				
u. Back problems	<input type="radio"/>				
v. Ringing in the ears	<input type="radio"/>				
w. Irritated eyes	<input type="radio"/>				
x. Trouble seeing with one or both eyes even if wearing glasses	<input type="radio"/>				
y. Teeth/gum/dental problems	<input type="radio"/>				
z. Broken bones	<input type="radio"/>				
aa. Other (please specify)	<input type="radio"/>				

28. If yes, what did you do?

29. Was there any time when you used a fair amount of any of these medications? Include both prescribed and nonprescribed medications for the last 30 days and the last 12 months.

	In the last <u>30 days</u>		In the last <u>12 months</u>	
	Yes	No	Yes	No
a. Allergy pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Aspirin or other pain killers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Diet pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Laxatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Sleeping pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Stomach medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Tranquilizers (Valium, Librium)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Antibiotics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Antimalarial pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Pyridostigmine (pills to protect you from a chemical weapon attack)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Other anti-CBW pills or agents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Prescribed medicine for psychological condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Ciprofloxacin (Cipro or anti-anthrax pills)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Other medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Other vaccine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## HEALTH PERCEPTIONS

30. In general, would you say your health is:

- Excellent
- Very good
- Good
- Fair
- Poor

31. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	Yes	No
a. Cut down the amount of time you spent on work or other activities	<input type="radio"/>	<input type="radio"/>
b. Accomplished less than you would have liked	<input type="radio"/>	<input type="radio"/>
c. Were limited in the kind of work or other activities you could do	<input type="radio"/>	<input type="radio"/>
d. Had difficulty performing the work or other activities (took extra effort)	<input type="radio"/>	<input type="radio"/>

## HEALTH PERCEPTIONS (CONTINUED)

**32. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?**

**Yes      No**

- a. Cut down the amount of time you spent on work or other activities
- b. Accomplished less than you would have liked
- c. Didn't do work or other activities as carefully as usual

**33. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?**

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

**34. How much bodily pain have you had during the past 4 weeks?**

- None
- Very mild
- Mild
- Moderate
- Severe
- Very Severe

**35. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?**

- Not at all
- A little bit
- Moderately
- Quite a bit
- Extremely

**36. How much of the time during the past 4 weeks:**

None of the time  
A little of the time  
Some of the time  
A good bit of the time  
Most of the time  
All of the time

- a. Did you feel full of pep? .....
- b. Did you have a lot of energy? .....
- c. Did you feel worn out? .....
- d. Did you feel tired? .....

**37. During the past 4 weeks, how much of the time have your physical or emotional problems interfered with your social activities (like visiting with friends, relatives,etc.)?**

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

**38. How true or false is each of the following statements for you?**

Definitely false  
Mostly false  
Don't know  
Mostly true  
Definitely true

- a. I seem to get sick a little easier than other people I know. .....
- b. I am as healthy as anybody I know. .....
- c. I expect my health to get worse. .....
- d. My health is excellent. .....
- e. I don't have the time to be ill. .....
- f. I sometimes allow myself to be ill. .....
- g. I don't have a choice about being ill. .....
- h. I can will myself not to become ill. .....
- i. I wait until the last minute to seek medical care. .....

39. Below is a list of ways you might have felt or behaved. Please indicate how often you have felt this way during the past 7 days.

	Rarely or none (less than 1 day)	Some or a little of the time (1 - 2 days)	Occasionally or a moderate amt. of time (3 - 4 days)	Most or all of the time (5 - 7 days)
a. I was bothered by things that usually don't bother me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I did not feel like eating; my appetite was poor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I felt I could not shake off the blues even with help from my family or friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I felt that I was just as good as other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had trouble keeping my mind on what I was doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. I felt depressed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. I felt that everything I did was an effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. I felt hopeful about the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. I thought my life had been a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. I felt fearful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. My sleep was restless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. I was happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. I talked less than usual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. I felt lonely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. People were unfriendly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. I enjoyed life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. I had crying spells.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. I felt sad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. I felt that people disliked me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. I could not get "going".	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. How have you felt during the past 7 days including today?

Use the following scale to describe how distressing you have found the following things over this time.

	Not at all	A little	Quite a bit	Extremely
a. Difficulty in speaking when you are excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Trouble remembering things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Worried about sloppiness or carelessness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Blaming yourself for things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Pains in the lower part of your back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Feeling lonely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Feeling blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Your feelings being easily hurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Feeling others do not understand you or are unsympathetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Feeling that people are unfriendly or dislike you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Having to do things very slowly in order to be sure you are doing them right	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Feeling inferior to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Soreness in your muscles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Having to check and double check what you do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Hot or cold spells	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Your mind going blank	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Numbness or tingling in parts of your body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. A lump in your throat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Trouble concentrating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Weakness in parts of your body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Heavy feeling in your arms and legs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## QUALITY OF LIFE

Pleased/Delighted  
Mostly satisfied  
Mixed

Mostly dissatisfied  
Terrible/Unhappy

41. How do you feel about your job? .....

42. How do you feel about yourself? .....

43. How do you feel about your own personal life? .....

44. How do you feel about your life as a whole? .....

## STRESS

45. Think about your life over the past 7 days. On the whole, how much stress do you think is in your life right now?

None at all  
 A little bit  
 Moderate amount  
 Quite a bit  
 Extreme amount

46. Over the past 7 days, stress has affected my personal life:

Not at all  
 A little bit  
 Moderate amount  
 Quite a bit  
 Extreme amount

47. Over the past 7 days, stress has affected my performance on the job:

Not at all  
 A little bit  
 Moderate amount  
 Quite a bit  
 Extreme amount

48. Over the past 7 days, how well have you coped with stress?

Very poorly  
 Somewhat poorly  
 In-between (neutral)  
 Somewhat well  
 Very well

## HEALTH CARE

49. Please indicate how many times you went to a military medical facility for your own health care during the past 12 months. (Mark one response in each row)

	Number of times	11 or more
a. Illness or injury .....	<input type="radio"/>	11
b. Follow-up for illness or injury .....	<input type="radio"/>	11
c. General physical exam .....	<input type="radio"/>	11
d. Prescription refill only .....	<input type="radio"/>	11
e. Eye exam only .....	<input type="radio"/>	11
f. Prenatal care .....	<input type="radio"/>	11
g. Same day surgery .....	<input type="radio"/>	11
h. Mental health .....	<input type="radio"/>	11
i. Emergency care .....	<input type="radio"/>	11
j. Other type of care (please specify type of care) .....	<input type="radio"/>	11

50. Please indicate how many times you went to a civilian doctor's office or outpatient clinic for your own health care during the past 12 months. (Mark one response in each row)

	Number of times	11 or more
a. Illness or injury .....	<input type="radio"/>	11
b. Follow-up for illness or injury .....	<input type="radio"/>	11
c. General physical exam .....	<input type="radio"/>	11
d. Prescription refill only .....	<input type="radio"/>	11
e. Eye exam only .....	<input type="radio"/>	11
f. Prenatal care .....	<input type="radio"/>	11
g. Same day surgery .....	<input type="radio"/>	11
h. Mental health .....	<input type="radio"/>	11
i. Emergency care .....	<input type="radio"/>	11
j. Other type of care (please specify type of care) .....	<input type="radio"/>	11

51. Please take a moment to recall your visit(s) to a military medical facility. Then mark one response that describes the strength of your agreement or disagreement with the following statements.

Not applicable  
Strongly disagree  
Disagree  
Neither agree nor disagree  
Agree  
Strongly agree

a. The doctor (or Corpsman, etc.) seemed warm and friendly to me. ....

b. The doctor (or Corpsman, etc.) seemed interested in me as a person. ....

c. I felt the doctor (or Corpsman, etc.) did not treat me with appropriate respect. ....

d. The doctor (or Corpsman, etc.) seemed to take my problem seriously. ....

52. On your last non-OB/GYN visit to a military medical facility, how satisfied were you with each of the following?

Not applicable  
Very dissatisfied  
Dissatisfied  
Neither satisfied nor dissatisfied  
Satisfied  
Very satisfied

a. The quality of medical services provided. ....

b. The amount of time it took you to get to the medical facility. ....

c. The amount of time you waited at the facility to see a health care provider. ....

d. The priority you were shown as an active-duty member. ....

e. The priority you were shown when you had orders to deploy. ....

f. The variety of medical services available to you. ....

g. The type of medical professionals that you saw. ....

h. The amount of privacy you had during the visit. ....

i. The consideration and respect shown to you. ....

j. The timeliness of the follow-up care. ....

53. When you go to a military medical facility, who is the primary person who treats you?

Doctor  
 Physician's assistant  
 Corpsman  
 Nurse  
 Other

54. After you arrive at a military medical facility, how long do you typically have to wait to see a doctor or other health care professional?

Less than 5 minutes  
 At least 5 minutes, but less than 15 minutes  
 At least 15 minutes, but less than half an hour  
 At least half an hour, but less than an hour  
 At least one hour  
 Two or more hours

55. Can you ask someone in the military medical system questions about a health concern on the telephone?

Yes  
 No  
 Don't know

## SELF CARE

56. How often do you do a testicular self exam?

Monthly  
 Once every few months  
 Rarely/Never  
 Not applicable

57. About how long has it been since you had a rectal exam?

Less than 1 year  
 1 year  
 2 years  
 3 or more years  
 Never had exam

58. How often do you examine your breasts for lumps?

Monthly  
 Once every few months  
 Rarely or never  
 Not applicable

## LIFESTYLE

59. Do you consider yourself now to be:

Overweight  
 Underweight  
 About the right weight

60. Would you like to weigh:

Less  
 More  
 Stay about the same

61. During the past 12 months, have you tried to lose weight?

Yes  
 No

62. During the past 12 months, have you changed what you eat because of any medical condition?

Yes  
 No

## LIFESTYLE (CONTINUED)

63. Are you satisfied with your eating patterns?

- Yes
- No

64. Do you ever eat in secret?

- Yes
- No

65. During the past 7 days, approximately how many days did you:

DAYS

- a. Eat breakfast (0) (1) (2) (3) (4) (5) (6) (7)
- b. Eat snacks between meals (0) (1) (2) (3) (4) (5) (6) (7)
- c. Overeat (0) (1) (2) (3) (4) (5) (6) (7)
- d. Not eat enough (0) (1) (2) (3) (4) (5) (6) (7)
- e. Take vitamin pills (0) (1) (2) (3) (4) (5) (6) (7)
- f. Take anti-oxidants (0) (1) (2) (3) (4) (5) (6) (7)

66. During the past 7 days, approximately how many times did you:

- More than 7 times per week
- 4 - 6 times per week
- 1 - 3 times per week
- Never

- a. Eat high-fat meats or dairy (e.g. hamburger, hot dogs, steak, bacon, whole milk, cheese, ice cream) ..... ○ ○ ○ ○
- b. Eat fried foods (e.g. french fries, fried chicken, fried eggs) ..... ○ ○ ○ ○
- c. Eat refined sugar products (e.g. cakes, pies, cookies, candies) ..... ○ ○ ○ ○
- d. Eat low-fat meats or dairy (e.g. chicken or turkey without skin, low-fat milk, yogurt) ..... ○ ○ ○ ○
- e. Eat 'leafy' vegetables (e.g. broccoli, cabbage, greens) ..... ○ ○ ○ ○
- f. Eat 'starchy' vegetables (e.g. beans, peas, corn, potatoes) ..... ○ ○ ○ ○
- g. Eat fruits (e.g. apples, oranges, raisins, dried fruit, melons, bananas) ..... ○ ○ ○ ○
- h. Eat high fiber foods (whole grain breads, cereals, bran) ..... ○ ○ ○ ○

67. Are you interested in hearing/reading about nutrition?

- Yes, very much
- Yes, sometimes
- Don't really care
- No, not usually
- No, not at all

68. How important do you feel that diet is in terms of your health?

- Probably the most important factor
- Very important, but not the primary factor
- Important
- Not very important
- Of little or no consequence

69. How important to you are the following considerations when you purchase foods?

Extremely important  
Very important  
Moderately important  
Somewhat important  
Not at all important

- a. Health benefits, nutritional value ..... ○ ○ ○ ○ ○
- b. Price, cost ..... ○ ○ ○ ○ ○
- c. Likes or dislikes, eating enjoyment ..... ○ ○ ○ ○ ○
- d. Convenience, easy to prepare ..... ○ ○ ○ ○ ○
- e. Calories ..... ○ ○ ○ ○ ○

70. During the past 30 days, on the average, how many hours of sleep did you get per night?

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) or more

71. In an average 7 days, how many times do you engage in exercise or work that lasts at least 20 minutes without stopping and that is hard enough to make you breathe heavier and make your heart beat faster?

- Less than 1 time per week
- 1 or 2 times per week
- At least 3 times per week

72. How long have you been on the exercise or work schedule in question 71?

- Less than 1 month
- 1 - 3 months
- 4 - 11 months
- 1 - 2 years
- 3 - 4 years
- 5+ years

73. How would you rate your current physical fitness?

- Poor
- Fair
- Good
- Very good
- Excellent

74. Have you smoked at least 100 cigarettes in your entire life? (That would be 5 or more packs in your entire life.)

- Yes
- No

75. How would you describe your cigarette smoking habits?

- Never smoked
- Current smoker
- Former smoker

76. During the past 30 days, how many cigarettes did you usually smoke on a typical day?

Did not smoke cigarettes in the last 30 days

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

77. How many times have you tried to quit smoking?

0  1  2  3  4  5  6  7  8  9 +

Did not ever smoke

78. If you quit, was it because you had a health problem that was caused or made worse by smoking?

Quit due to health problem  
 Quit due to other reason  
 Never quit  
 Never smoked

79. If you quit, on average, how many cigarettes did you smoke a day when you last smoked every day?

Did not smoke cigarettes in the last 30 days

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

80. How many years have you used (or did you use) any form of tobacco on a regular basis? Do not count any time when you quit using tobacco.

Never used tobacco  
 Less than one year  
 1 year  
 2 years  
 3 years  
 4 years  
 5 years  
 6 years  
 7 years  
 8 years  
 9 years  
 10 years  
 11 years  
 12 years  
 13 years  
 14 years  
 15+ years

81. How many cigars and/or pipes do you usually smoke per day?

NUMBER

0  1  2  3  4  5  6  7  8  9  10 +

82. How many times per day do you usually use smokeless tobacco? (Chewing tobacco, snuff, pouches, etc.)

NUMBER

0  1  2  3  4  5  6  7  8  9  10 +

83. During the past 7 days, on the average, how many caffeinated beverages did you have per day? (cola, coffee, tea)

NUMBER

0  1  2  3  4  5  6  7  8  9  10  11  12  13 +

84. During the past 30 days, how much alcohol did you drink on a typical day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as one drink.)

18 or more drinks  
 15 - 17 drinks  
 12 - 14 drinks  
 9 - 11 drinks  
 8 drinks  
 7 drinks  
 6 drinks  
 5 drinks  
 4 drinks  
 3 drinks  
 2 drinks  
 1 drink  
 Didn't drink any alcohol in the past 30 days

## LIFESTYLE (CONTINUED)

85. During the past 30 days, on how many days did you drink alcoholic beverages?

- 28 - 30 days (about every day)
- 20 - 27 days (5 - 6 days a week, average)
- 11 - 19 days (3 - 4 days a week, average)
- 4 - 10 days (1 - 2 days a week, average)
- 2 - 3 days in the past 30 days
- Once in the past 30 days
- Didn't drink any alcohol in the past 30 days

86. How many sexual partners have you had in the last six months?

0  1  2  3  4  5  6  7  8  9  10 or more

87. What birth control method(s) do you currently use?  
(*Mark all that apply*)

- a.  Tubal ligation
- b.  Vasectomy
- c.  Norplant
- d.  Depo-Provera
- e.  Birth control pills
- f.  IUD
- g.  Diaphragm
- h.  Condom
- i.  Spermicide (foam, jelly, cream, suppositories)
- j.  Sponge
- k.  Douche
- l.  Withdrawal
- m.  Rhythm
- n.  Abstinence
- o.  Other (please specify) \_\_\_\_\_
- p.  None

88. If you do not use birth control, please indicate reason:  
(*Mark all that apply*)

- a.  Religious/moral beliefs
- b.  My partner's preference
- c.  Inconvenient/interferes with spontaneity
- d.  Want to get pregnant
- e.  Other (please specify) \_\_\_\_\_
- f.  Use birth control/abstinent

## HEALTH PROMOTION SERVICE

89. During the past 12 months, if I had needed it, counseling was readily available to me on:

Do not know  
Strongly disagree  
Disagree  
Neither agree nor disagree  
Agree  
Strongly agree

- a. Quitting smoking .....
- b. Alcohol abuse .....
- c. Drug abuse .....
- d. Birth control/family planning .....
- e. Weight control .....
- f. Stress management .....

## FRIENDS AND FAMILY

90. How many close friends do you have (people that you feel at ease with, can talk to about private matters, and can call for help)?

0  1  2  3  4  5  6  7  8  9  10 or more

91. How many relatives do you have that you feel close to?

0  1  2  3  4  5  6  7  8  9  10 or more

92. How many of these friends or relatives do you see at least once a month?

0  1  2  3  4  5  6  7  8  9  10 or more

93. Are you a member of any social clubs or groups?

Yes  
 No

94. Are you an active member of a church, temple, or other religious organization?

Yes  
 No

95. How often have you asked the advice of relatives or friends about your marriage?

Never  
 Seldom  
 Several times  
 Often  
 Very often  
 Not married

96. How often have you gone to a doctor, counselor or clergyman for marriage problems?

- Never
- Seldom
- Several times
- Often
- Very often
- Not married

97. How much time do you spend thinking about marriage problems?

Not  
None      Some      A lot      Married  
①      ②      ③      ④      ⑤      ⑥

98. I am definitely satisfied with my marriage

- Strongly agree
- Agree
- Neutral (undecided)
- Disagree
- Strongly disagree
- Not married

99. How many children (natural, adopted, stepchildren, or grandchildren) under the age of 21 live in your household? (Mark all that apply)

Children's age	None	1	2	3	4	5+
a. Less than 6 weeks old	①	②	③	④	⑤	
b. 6 weeks to under 1 year	①	②	③	④	⑤	
c. 12 to 23 months	①	②	③	④	⑤	
d. 24 to 35 months	①	②	③	④	⑤	
e. 3 to 5 years	①	②	③	④	⑤	
f. 6 to 9 years	①	②	③	④	⑤	
g. 10 to 12 years	①	②	③	④	⑤	
h. 13 to 15 years	①	②	③	④	⑤	
i. 16 to 20 years	①	②	③	④	⑤	

100. How old were you when your first child was born?

- No children

AGE	
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

## PSYCHOSOCIAL

101. In the last year, how many serious personal losses or difficult problems have you had to handle (e.g., promotion passover, divorce/separation, legal or disciplinary action, bankruptcy, death of someone close, serious illness/injury of a loved one, etc.)?

- Several
- Some
- Few
- None

102. Have you seriously considered suicide within the last 2 years?

- Yes
- Yes, within the last year
- Yes, within the last 2 months
- No

103. How often do you have any serious problems dealing with your husband or wife, parents, friends, or with your children?

- Often
- Sometimes
- Seldom
- Never

104. How often did you experience a major pleasant change in the last year (for example, promotion, marriage, birth, award, etc.)?

- Often
- Sometimes
- Seldom
- Never

105. What causes the biggest problem in your life?  
(Darken only one circle)

- Money
- Social life
- Family
- Supervisor
- Job
- Health
- No problem

## PSYCHOSOCIAL (CONTINUED)

### 106. Were you abused prior to entering the military?

(Mark all that apply)

- a.  Yes, emotionally abused
- b.  Yes, sexually abused
- c.  Yes, physically abused
- d.  No, not abused

### 107. Since entering the military, have you been abused?

(Mark all that apply)

- a.  Yes, emotionally abused
- b.  Yes, sexually abused
- c.  Yes, physically abused
- d.  No, not abused

### 108. If abused either prior to entering the military or after entering the military, have you ever received treatment?

Yes

No

Not applicable

Strongly disagree

Disagree

Agree

Strongly agree

- 109. I feel that I'm a person of worth at least on an equal basis with others. ....
- 110. I feel that I have a number of good qualities. ....
- 111. All in all, I'm inclined to feel that I am a failure. ....
- 112. I am able to do things as well as others. ....
- 113. I feel I do not have much to be proud of. ....
- 114. I take a positive attitude towards myself. ....
- 115. On the whole I am satisfied with myself. ....
- 116. I wish I could have more respect for myself. ....
- 117. I certainly feel useless at times. ....
- 118. At times I think I'm no good at all. ....

## TEMPERAMENT

A number of statements people use to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you generally feel.

Almost always

Often

Sometimes

Almost never

- 119. I am quick-tempered. ....
- 120. I have a fiery temper. ....
- 121. I am a hotheaded person. ....
- 122. I get angry when I am slowed down by others' mistakes. ....
- 123. I feel annoyed when I am not given recognition for doing good work. ....
- 124. I fly off the handle. ....
- 125. When I get mad, I say nasty things. ....
- 126. It makes me furious when I am criticized in front of others. ....
- 127. When I get frustrated, I feel like hitting someone. ....
- 128. I feel infuriated when I do a good job and get a poor evaluation. ....
- 129. I feel irritated. ....
- 130. I feel angry. ....
- 131. People who think they are always right irritate me. ....
- 132. I get annoyed when I am singled out for correction. ....
- 133. My blood boils when I am pressured. ....
- 134. I feel pleasant. ....
- 135. I feel nervous and restless. ....
- 136. I feel satisfied with myself. ....
- 137. I wish I could be as happy as others seem to be. ....
- 138. I feel like a failure. ....
- 139. I feel rested. ....
- 140. I feel "calm, cool, and collected". ....
- 141. I feel that difficulties are piling up so much that I cannot overcome them. ....
- 142. I worry too much over something that really doesn't matter. ....
- 143. I am happy. ....
- 144. I have disturbing thoughts. ....
- 145. I lack self-confidence. ....
- 146. I feel secure. ....
- 147. I make decisions easily. ....
- 148. I feel inadequate. ....
- 149. I am content. ....
- 150. Some unimportant thought runs through my mind and bothers me. ....
- 151. I take disappointments so keenly that I can't put them out of my mind. ....
- 152. I am a steady person. ....
- 153. I get in a state of tension or turmoil as I think over my recent concerns and interests. ....

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## WORK

154. How often are you bothered by each of the following in your work?

Nearly all the time  
Rather often  
Sometimes  
Rarely  
Not at all

- a. Not having enough help and equipment to get the job done well .....
- b. Feeling you have too much responsibility for the work of others .....
- c. Thinking that you'll not be able to meet the conflicting demands of various people you work with .....
- d. Having to do or decide things where mistakes could be quite costly .....
- e. Not knowing just what the people you work with expect from you .....
- f. Thinking that the amount of work you have to do may interfere with how well it gets done .....
- g. Feeling that you have to do things on the job that are against your better judgement .....
- h. Feeling that your job tends to interfere with your family life .....
- i. Feeling unable to influence your immediate supervisor's decisions and his/her actions that affect you .....
- j. Having to deal with or satisfy too many different people .....
- k. Being asked to work overtime when you don't want to .....
- l. Feeling trapped in a job you don't like but can't change and can't get out of .....

*The following ask you about how you feel about your present job overall.*

155. Overall, how satisfied would you say you are with your present job?

- Not at all satisfied
- Not too satisfied
- Somewhat satisfied
- Very satisfied

156. Knowing what you know now, if you had to decide all over again whether to join the military, what would you decide?

- Decide definitely not to join
- Have some second thoughts
- Decide without hesitation to join

157. In general, how well would you say that your regular military job measures up to the sort of job you wanted when you took it?

- Very much like
- Somewhat like
- Not very much like

158. If a good friend told you he/she was interested in working in a job like your regular military job, what would you tell him/her?

- Advise him/her against it
- Have doubts about recommending it
- Strongly recommend it

159. How sad/happy do you feel about your job?

Happy       Sad

## CASUALTY EVENTS

*Exposure to a disaster or violence can sometimes have long-term effects. The following questions will help to provide a baseline history of exposure to disasters or violence that may help in studying these effects.*

160. Have you ever been exposed to a natural disaster involving injuries or fatalities? (e.g., earthquakes, fire, flood, etc.)

*(Mark all that apply)*

- a.  Yes, witnessed
- b.  Yes, survivor/victim
- c.  Yes, participated in aid, clean-up, rescue, or investigation
- d.  No

161. Have you ever been exposed to combat or violence involving injuries or fatalities? *(Mark all that apply)*

- a.  Yes, witnessed
- b.  Yes, survivor/victim
- c.  Yes, used deadly force as a part of my military job
- d.  Yes, participated in aid, clean-up, rescue, or investigation
- e.  No

162. Have you ever witnessed or been involved in a major accident involving injuries or fatalities?

*(Mark all that apply)*

- a.  Yes, witnessed
- b.  Yes, survivor/victim
- c.  Yes, participated in aid, clean-up, rescue, or investigation
- d.  No

## ENVIRONMENTAL/OCCUPATIONAL HEALTH

163. Is protective gear available for your use in your current job? Examples of protective gear are gloves, respirator, filter, mask, boots, ear plugs, film badge, hazardous materials suit and fire fighting suit.

- Yes
- No
- Sometimes
- Not applicable

164. When you have contact with substances that might be harmful, how often do you use protective gear?

- Never
- Some of the time
- Most of the time
- Always
- Not applicable

165. Which reasons for not wearing protective gear are the most true for you? (Mark all that apply)

- a.  It doesn't work properly
- b.  It interferes with job performance
- c.  It is uncomfortable
- d.  I don't know how to use it
- e.  It is not needed
- f.  None, always wear protective gear
- g.  Not applicable

166. During the past 30 days, have you been exposed to tobacco smoke for an hour or more a day in your immediate work or living area?

- Not exposed
- Work area only
- Living area only
- Both work and living area

167. Are you currently in one or more of the following medical surveillance programs? (Mark all that apply)

- a.  Asbestos
- b.  Noise
- c.  Lead
- d.  Chromium
- e.  Cadmium
- f.  Non-ionizing radiation
- g.  Ionizing radiation
- h.  Other \_\_\_\_\_
- i.  None

168. For all jobs or hobbies you have had, indicate the known health hazards that are/were present and the number of years you have been/were exposed.

<u>Exposure</u>	
	5 years or more
	3 - 4 years
	1 - 2 years
	Less than 1 year
	Not exposed

- a. Fibrous glass (fiberglass) .....
- b. Asbestos .....
- c. Coal dust or rock dust .....
- d. Silica powder or sandblasting dust .....
- e. Other specific dusts (woods, talc, lime) .....
- f. Respiratory or skin irritants .....
- g. Chemicals (acids, alkalis, solvents) .....
- h. Metal fumes (from molten metal) .....
- i. Welding fumes .....
- j. Coal tar, pitch, asphalt's .....
- k. Engine exhaust, grease, oils, fuel .....
- l. Heat (severe) .....
- m. Cold (severe) .....
- n. Noise (loud) .....
- o. Non-ionizing radiation .....
- p. Ionizing radiation (X-rays, etc.) .....
- q. Vibration (vibrating tools, motors) .....
- r. General shop dust .....
- s. Pesticides, herbicides .....
- t. Acids .....
- u. Alcohol's (industrial) .....
- v. Other (please specify) .....

169. Have you been exposed to any of the following in the past 12 months:

*(If you answer "yes" to any question, please complete all items on that line.)*

- a. Adhesives or gluing compounds
- b. Asbestos (loose)
- c. Carbon monoxide
- d. Diesel exhaust (within 50 ft)
- e. Diesel fuel (within 50 ft)
- f. Dry cleaning solvent
- g. Exhaust from gasoline engine
- h. Gasoline (liquid or vapor)
- i. Guided missile fuel
- j. High temperature (above 95° F)
- k. Hypodermic needles (used)
- l. Insecticides
- m. Jet exhaust (within 50 ft)
- n. Jet fuel (within 50 ft)
- o. Loud noise (jets, etc)
- p. Lifting 25 - 49 pounds
- q. Lifting 50 or more pounds
- r. Low temperature (below 32° F)
- s. Metal scrapings or filings
- t. Microwave oven (within 3 ft)
- u. Paint, (oil based), or thinner
- v. Paint, unknown type
- w. Paint scrapings or paint sanding
- x. Radar antenna or array (within 50 ft)
- y. Solvent or degreaser
- z. Torpedo fuel
- aa. Transmitting antennas (within 50 ft)
- bb. Nuclear reactor (within 50 ft)
- cc. Nuclear fuel
- dd. Nuclear ordnance
- ee. Nuclear medicines (radioisotopes)
- ff. Video display terminal
- gg. Welding fumes
- hh. Dust particles
- ii. Explosives (non-nuclear)
- jj. Nitrous oxide
- kk. Ethylene dibromide (EDB)
- ll. Perchloroethylene (PERC)

If yes, average:

**If you are MALE:** Please  here. Please complete the special handout page. Place the completed handout and questionnaire in the enclosed postage-free envelope. Thank you for your time and cooperation.

**If you are FEMALE:** We would appreciate it if you would take a few extra minutes to answer some additional questions about health issues for women.

## SUPPLEMENT FOR WOMEN

*This section is to report female-specific conditions that you had during the past 3 months, whether or not they resulted in a visit to sick call or a health care provider.*

### 170. Did you have any of these conditions?

	Yes	No
a. Bleeding between periods	<input type="radio"/>	<input type="radio"/>
b. Cramps or pain during menstrual period requiring medication or time off of work	<input type="radio"/>	<input type="radio"/>
c. Excessive frequency of periods (time between periods too short)	<input type="radio"/>	<input type="radio"/>
d. Heavy periods (excessive menstrual flow)	<input type="radio"/>	<input type="radio"/>
e. Period lasting longer than a week	<input type="radio"/>	<input type="radio"/>
f. Missed period	<input type="radio"/>	<input type="radio"/>
g. No menstrual periods for 2 or more months	<input type="radio"/>	<input type="radio"/>
h. Scanty menstrual flow	<input type="radio"/>	<input type="radio"/>
i. Abdominal pain (from known cysts)	<input type="radio"/>	<input type="radio"/>
j. Abdominal pain (from other unknown cause)	<input type="radio"/>	<input type="radio"/>
k. Endometriosis	<input type="radio"/>	<input type="radio"/>
l. Discharge from breast	<input type="radio"/>	<input type="radio"/>
m. Breast lump	<input type="radio"/>	<input type="radio"/>
n. Premenstrual symptoms or pain (PMS, premenstrual cramps)	<input type="radio"/>	<input type="radio"/>
o. Vaginal rash, discharge, or other disorder <u>except</u> yeast infection or sexually transmitted diseases	<input type="radio"/>	<input type="radio"/>
p. Yeast or vaginal infection	<input type="radio"/>	<input type="radio"/>
q. Problem with uterus (womb)	<input type="radio"/>	<input type="radio"/>

### 171. If you missed a period in the last 30 days, have you had a pregnancy test?

- Yes
- No, not yet
- No, hysterectomy
- No, menopausal
- No, other
- Not applicable/Did not miss a period

### 172. At what age did your menstrual cycles begin?

- Younger than 10 years old
- 10 - 12 years old
- 13 - 15 years old
- 16+ years old
- Don't know

### 173. What is the total number of years you have taken birth control pills in your lifetime?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- or more

### 174. During the past 30 days, have you taken replacement estrogens?

- No
- Yes, hormone pills
- Yes, hormone creams or other hormone preparation such as the skin patch

### 175. Have you had a mammogram in the past 5 years?

- Yes
- No

### 176. How long has it been since you had a Pap smear?

- Less than 1 year
- 1 year
- 2 years
- 3 years or more
- Never had a Pap smear

### 177. Have you ever had a Pap smear where the result was NOT normal?

- Yes
- No
- Don't know

### 178. About how long has it been since you had your breasts examined by a physician or nurse?

- Less than 1 year
- 1 year
- 2 years
- 3 years or more
- Never had breasts examined

### 179. Have you received training from a medical provider on breast self-exam (BSE)?

- Yes
- No

### 180. Have you ever had an operation to remove a lump from your breast that was found to be noncancerous?

- Yes
- No

*SUPPLEMENT FOR WOMEN continued* →

**SUPPLEMENT FOR WOMEN (CONTINUED)**

181. For your last OB/GYN visit in a military medical facility, how satisfied were you with each of the following?

Not applicable  
Very dissatisfied  
Dissatisfied  
Neither satisfied nor dissatisfied  
Satisfied  
Very satisfied

- a. The quality of medical services provided .....
- b. The amount of time it took you to get to the medical facility .....
- c. The amount of time you waited at the facility to see a health care provider ...
- d. The priority you were shown as an active-duty member .....
- e. The priority you were shown when you had orders to deploy .....
- f. The variety of medical services available to you .....
- g. The type of medical professionals whom you saw .....
- h. The amount of privacy you had during the visit .....
- i. The consideration and respect shown to you .....
- j. The timeliness of follow-up care .....

182. Do you know where to get information about pregnancy and possible risks from your job and job environment?

- Yes
- No
- Not applicable

183. When you are pregnant, do you feel there are enough OB/GYN trained personnel available to see you when necessary?

- Yes
- No
- Not applicable

184. When you are pregnant, do you feel you are given enough time off from your job to be seen in OB/GYN when necessary?

- Yes
- No
- Not applicable

185. While on OCONUS orders, has it been difficult to receive the kind of OB/GYN care you would like?

- Yes
- No
- Not applicable

**PREGNANCY HISTORY**

186. How many times have you been pregnant?

- 0 Never
- 1 time
- 2 times
- 3 times
- 4 times
- 5 times
- 6 times
- 7 times
- 8 times
- 9 or more times

187. Have you been pregnant in the past 12 months?

- Yes
- No

188. Have you become pregnant since coming on active duty?

- Yes
- No

189. Are you pregnant now?

- Yes
- No
- Not sure

190. If yes, was this a planned pregnancy?

- Yes
- No
- Not applicable

191. In the past 12 months, have you had:

	Yes	No	Not Applicable
a. Problems becoming pregnant?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Pregnancy complications?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. A miscarriage/spontaneous abortion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. An elected abortion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. A stillbirth?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Childbirth problems? (e.g. hemorrhaging, Cesarean section, induced labor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Post-partum complications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

192. How happy or unhappy would you be if you were to become pregnant in the next year?

- Extremely happy
- Moderately happy
- Neither happy nor unhappy
- Moderately unhappy
- Extremely unhappy

**PREGNANCY HISTORY continued** →

**PREGNANCY HISTORY (CONTINUED)**

193. How convenient or inconvenient would it be for you to get pregnant in the next year?

- Extremely convenient
- Moderately convenient
- Neither convenient nor inconvenient
- Moderately inconvenient
- Extremely inconvenient

194. How many live births have you had?

0  1  2  3  4  5  6  7  8  9 or more

195. Were any of the babies born prematurely or under 5 pounds?

- Yes
- No
- Not applicable

196. Did any of the babies stay in the hospital after you came home?

- Yes
- No
- Not applicable

197. Did you breast feed at least one of your children?

- Yes
- No
- Not applicable

198. How healthy would you say your children are relative to other children their age?

- Less healthy
- Same
- More healthy
- Not applicable

*Thank you for the extra effort to complete these questions.  
Please take a moment to complete the special handout page.  
Place the handout and questionnaire in the box as you leave  
the room. Thank you for your time and cooperation.*

## **YOUR COMMENTS ON THIS SURVEY ARE WELCOME**

We have attempted to be thorough in examining issues that are related to your health and the health care you receive. If you have comments that may help us to better understand your experience with the military health system, please write them in the space below.

If your comments concern a particular question, be sure to write the question and page number before your comment.

<p><b>FSU</b></p> <p><b>THIS BLOCK FOR OFFICE USE ONLY</b></p>			
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

**Nucleus Installation:** \_\_\_\_\_

**Survey Phase**

I      II

  

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**APPENDIX B**  
**Revised Statement of Work**

**Statement of Work, Revised**  
**October 26, 1999**

**Award Number DAMD17-96-2-6021**

**Project Title: Health Status of Military Women and Men in the Total Force**

<u>Step</u>	<u>Months</u>
1. Adapt the NHRC's 1995 POWR data collection instrument for the Army, Air Force, and Guard/Reserve.	Completed
2. Design, format, and pretest the questionnaire.	Completed
3. Obtain advisory group and convene advisory group meetings to build support for study.	Completed
4. Pursue alternate data collection methodologies with Services.	Completed
5. Obtain questionnaire clearances from DoD.	Completed
6. Construct the sample frame and select the sample.	Completed
7. Services obtain letters of support for the survey.	Completed
8. Collect and scan the data from the Army, Air Force, and Guard/Reserve components.	Completed
9. Process the data (i.e., edit and clean the data file) and develop final analysis weights.	Completed
10. Construct relevant measures and conduct analyses of the data.	Completed
11. Prepare article-length manuscripts and/or a research monograph based on the analyses of the data from the Total Force.	Nov 1, 1999- Nov 1, 2000

(The study's annual report is due 1 NOV 1999.)